AMERICAN AGRICULTURIST,

FOR THE

Farm, Garden, and Household.

"AGRICULTURE IS THE MOST HEALTHFUL, MOST USEFUL, AND MOST NOBLE EMPLOYMENT OF MAN."—WASHINGTON.

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January.

"'Tis then the time from hoarding cribs to feed
The ox laborious, and the noble steed;
'Tis then the time to tend the bleating fold,
To strew with litter, and to fence from cold,
The cattle fed, the fuel piled within,
At setting day the blissful hours begin,
'Tis then, sole owner of his little cot,
The farmer feels his independent lot;
Hears with the crackling blaze that lights the wall,
The voice of gladness and of nature call;
Beholds his children play, their mother smile,
And tastes with them the fruit of Summer's toil."
HUMPHREYS.

The new year will, we trust, open not so badly, as some anticipated. There has, indeed, been calamity among merchants, some failures, and a great taking in of sail all around, some distress and short work among manufacturers in the early part of the year, but good prospects at the close. We shall always be a trading people, doubtless, but henceforth, we are to make more of our own goods. The debt being incurred by the war indicates a high tariff for many years to come. Almost every thing raised upon the farm, has ruled lower, but the demand has been steady, and the pay fair, especially for grain. Immense quantities of European gold have come into the country—more, probably, than ever flowed hither in a single year before, and it is now lining the farmer's pocket. He has the metal in his purse, and with many it is entirely a new sensation. The farmer was never more encouraged in his work. Manufacturers will be brisk supplying the hungry market, when the war is over, and that will make a brisk demand for all the farmer's crops near home. The world must have breadstuffs, fruits, beef, pork, cheese, and butter, and while grass grows and water runs, farmers can raise them.

Farmer Hardy is meditating upon these things, as he sits by his Winter fire, after the day's work is done. You see the blaze of his hickory wood, the lamp upon his table, the pile of agricultural books and papers, the pen and inkstand, and the cat purring and dozing at his feet. Like a sensible man, he does not keep dogs—does not believe in them—but believes in sheep. You see he looks amazingly comfortable, though a snow storm is raging without. What does he care. He is PLANNING THE CAMPAIGN for next season. You see farmer Hardy is a middle aged man, and has a good deal of experience in cultivating the soil. He has a great many proverbs at his tongue's end, and you can not talk with him five minutes without hearing some of these pithy sayings. One of these is, "*take time by the forelock.*" He is doing that now, and making all his arrangements for the whole year. He has learned that he can raise better crops, and make money faster, by laying out his work beforehand. He finds that his brain work by lamp light pays well in connection with the work of the muscles in the corn field, or in the meadow. He has a map of his farm, with every fence, gate-way, pond hole, muck swamp, orchard, and woodland laid down. He knows the enemies he has to contend with—rocks, water, brush, weeds, vermin, and how to marshal his forces, so as to overcome them. He is getting his guns and ammunition ready, and drilling his forces for the great struggle next Spring, and Summer. This planning decides between profit and loss, defeat and victory, in the year's operations.

He has no fields that are growing poorer, and running out. He enlarges his plans a little every year, and finds that the soil honors all drafts that he makes upon it. Another of his pithy sayings is, "*more manure,*" and you will find he has planned to make seven hundred loads this year. He wants five hundred for his hoed crops, and two hundred to spread upon his grass land in the Fall and Winter. He will make one hundred in the sty, two hundred in compost heaps out where he is to plant corn, and four hundred in his barn cellar and yard. This involves the carting of a good deal of muck and peat, of which he has always on hand a large quantity, dug a year before. When the ground is frozen, and the wheeling is good, his teams are all busy with the carting. When it rains or snows he has always work on hand in the barn cellar, or under the sheds, spreading muck and making compost. He hires his laborers by the year, so that they are never out of a job, and have no time to learn bad habits at the store or tavern. There is no difficulty with him in planning profitable work all the while.

He has been increasing the quantity of manure to the acre for several years, and finds he has not reached the limit of profit at fifty loads to the acre. He began with twenty loads, and finds that his corn costs less per bushel with fifty loads, than with twenty. Having five hundred loads of manure for plowed land, he will plant only ten acres to corn, but will get about eighty bushels to the acre.

Farmer Hardy has waked up to the value of roots, the last two years, and he has laid out two acres for field beets and carrots. Cattle do much better upon a variety of food, and a few roots every day give a relish to every thing else, and help digestion. He will tell you "*the proof of the pudding is in the eating,*" and point to his cattle as standing arguments in favor of root culture. Tell him that roots are "nothing but water," and he will answer you, "they are beef, veal, milk, butter, and cheese."

He not only goes in for manure and roots, but for draining land now useless. He has been draining swales and wet land, for ten years, and has now several miles of tiles and stone drains earning money for him under ground. He finds nothing like them to rout the enemy, water, and to make manure tell. His Winter grain is not winter-killed, on drained fields, and the grass is much heavier, and lasts longer. He is marking another field for drainage this year.

Another of his proverbs is, "*like produces like,*" and you will find he is making out a list of seeds now, for the field and garden. He knows what he has saved pure, and what he must buy, to get the best results from the season's campaign. He carries this maxim into his stock, and by judicious selection, has added twenty per cent to the annual yield of his cows, in butter and cheese. He has improved breeds of cattle, cows, sheep and oxen, pigs and poultry. He takes prizes at the fairs, and feels comfortable.

Farmer Hardy, with his planning and thinking these stormy winter nights, is a thriving, happy man. He never has a bit of the blues, for he knows just how he stands with the world, and how much he adds to his capital every year. He is not scared by gloomy prospects in the future, poor crops, winter-kill, cattle disease, or heavy taxes for the war. He knows that he makes his campaigning pay against rocks, weeds, water, brush, and other foes, and has no doubt that Uncle Sam is smart enough to vanquish all his enemies, and gain money and muscle by the exercise. With these comfortable convictions for himself and his country, he is likely to have the HAPPY NEW YEAR, with which we cordially salute all our readers.

Calendar of Operations for Jan., 1862.

[A glance over a table like the following will generally call to mind some piece of work that would otherwise be forgotten or neglected. The remarks are more especially adapted to places between 38° to 43°; but will be equally applicable further North and South, by allowing for latitude. —The calendar will, of course, be much more full during the season of active field and garden work.]

Farm.

Winter is the Farmer's seed-time for ideas. When the labors of the year press, and the mind is oppressed with the daily and hourly details of farm work, and the management of hands, many an idea occurs to one which he must wait until Winter to develop and inform himself upon. His mind may then be freshly enriched from books and contact with other minds, and is in a fit state for the profitable development of the thought-germs gathered during his season of labor.

Agricultural Reading—Place at least one good farmer's paper, better three or four, upon your center table in the sitting room. Encourage every member of the family to read. Keep a pleasant fire, bright light and quiet there, so that every one may read who will. The little it costs will be a most profitable investment. Buy rather those books which treat thoroughly of one subject, than those which profess to contain a little of almost every thing in small compass.

Barns—Protect roots against frost, if you have them stored in the barn cellar. Pack the hydrant in strawy horse manure, which is best done by placing a headless barrel around it and then filling that. Look out for slippery spots in the cattle walks, and especially near gates or doorways; cover the ice with earth or ashes, but never put on salt—unless you remove it *all*. Now, if ever, should every thing be in its place and the whole barn neat and clean.

Cattle—Feed no more than you can keep well. Give good bedding to all. Keep milch cows and fatting cattle still; they need little or no exercise. Young stock and working oxen should spend some hours daily in the open air unless it is very stormy, but when stabled, should be warm and comfortable. Never feed on the ground, but in racks. Cattle kept in yards, (a poor practice at best) should have roomy and warm sheds. Provide if you can lumps of rock salt for cattle to lick when they please, otherwise, salt them once a week. If you suspect lice, rub a little unguentum (mercurial ointment) mixed with lard, behind the horns, and tie up for some days. Feed roots finely sliced; turnips first, beets, mangels, and ruta bagas by and by. Beef animals need the assiduous care of the *owner* now more than at any other season.

Cellars—Air well on warm, moist days. Keep clean and watch the appearance of fresh rat holes, all of which close with broken bottles and cement mortar.

Dairy—Color winter butter with carrots fed to the cows.

Eaves and Eave-spouts—Clear of leaves, etc., on thawing days, if not done, that the cistern may not lack water.

Farmers Club—Start one at once, if you have not one now, and attend one at any rate if there are not more than three members. Have no secrets, the smallest kind of men have the most.

Fencing stuff—Get out, and haul when you have good sledding, at least a third more than you think you can use.

Fodder—Cut up coarse fodder, wet it, salt it, sprinkle enough oil-meal or ship-stuff on to give it flavor, and let it stand, stirring occasionally till well soaked and mixed. All kinds of stock will eat it. Use no worthless fodder except in the manure heap.

Frost—Sprinkle a handful or two of salt around posts likely to be heaved by the frost, picking out the ice to the ground, in a little groove close to the post. What ever is frozen and liable to injury by frost, thaw very slowly; put vegetables or apples into *ice cold* water.

Fuel—Cut fuel without stint, and be ready to haul what is cut as soon as there is fair sledding.

Granary—Thrash and get all grain into an airy, dry, rat proof granary as soon as possible. Many a farmer loses enough grain by rats and mice to winter a horse. Mice and rats multiply rapidly if they have anything to live upon—employ all help to get rid of them. A cat is an excellent thing in the barn, but keep her out of the granary, unless she is very well behaved. Corn keeps best on the ear; if it is to be fed out this Winter *shell* it as soon as you please; if you are to keep it into the Summer leave it on the ear.

Hemp—Break, and bale up for market in dry weather, this month and next.

Horses—Keep well shod and sharp. Be very careful to blanket horses when they are warm. Give liberal bedding, and the best of care to the breeding mares, taking special care that they do not fall in slippery weather, if long with foal. Break colts, and subdue fractious colts or other horses by the Rarey method, when there is a foot of soft snow on the ground. Feed carrots in small quantities, 4 quarts a day, to all classes of horses.

Harnesses—After being wet, wipe and oil them thoroughly before they dry. Have all harnesses overhauled, and put in good order.

Ice—Get out ice in the coldest weather for then it is dry. Set the cakes on their edges, and if possible pack them in the ice house in early morning when the temperature is near or below zero. The first formed ice is best.

Implements—Think up what new ones you want, and find out which are the best kinds.

Manure—Make it under cover. Do not let it freeze even, if it can be helped. This is the manure harvest and as much should be gathered as possible. Compost with muck or earth. Save *all* the liquid manure, and every thing about the house or barn that has the principle of decay in it. Keep the manure heap moist, compact and level. If it touches the outside of any building clear it away at once.

Market produce as soon as there is good sleighing or hard roads; prices are now somewhat remunerative. Look up various kinds of manufacturers' wastes leather chips, etc., for return loads. Sell grain by sample, warranted, with the privilege of delivering it at your own time, if you can do so.

Plowing—We can occasionally do some plowing in January. Do it if you can make good work.

Poultry—Give them warm, dry, sunny, well whitewashed quarters, clean straw in the nests, a good feed of grain once a day, and once a day boiled and mashed potatoes and scraps from the table, with occasionally "scraps" from the trying pot too, and *unchilled water*, or a trough of running water to drink and you will not lack eggs. Keep an ash box in one corner always dry and dusty, and throw in fresh ashes or lime now and then.

Roads and Paths—Open the roads after snow storms. Out upon the man who lets his neighbors open his road for him! A snow plow for one or two horses after every snow should draw its furrows 4 feet wide through the whole neighborhood, and thus neighborly intercourse will be established, the children can go to school, and the women can get out to the prayer meeting, which otherwise might not be for several days.

Sheep—If sheep have good shelter they "know enough to come in when it rains." Never expose them, give them the range of a good large yard—not of the open field—fold them nights, let the buck run with the ewes now for June lambs. Give fatting sheep most careful attention. Watch the first symptoms of disease.

Sink drains, etc., are apt to freeze up—prevent it.

Swine—Fat hogs should have been killed and packed or marketed last month. If that job is still on your hands have it done with at once. Keep growing pigs at work in the manure heap—and encourage activity with an occasional handful of corn. Give breeding sows warm nests, plenty of litter, and good feed, but not of a fattening character. Send sows to the boar for May pigs.

Timber, Wood lots—Do not cut trees so as to leave tall stumps. Cut with reference to young and growing trees. If you have timber or bark to draw out from swampy ground, employ the first opportunity after the ice will bear your team.

Tools if not greased will be likely to rust; attend to this, and to any repairs they may need. Make up a lot of rake teeth, and hay caps, and other things which you will need next Spring or Summer.

Orchard and Nursery.

The present month offers to nurserymen and orchardists an opportunity to put things to rights; to fit up buildings conveniently, and to do many things about their places which they will neglect, or half do in the hurrying season, when the frost is leaving the ground, and customers are clamorous for trees.

Grafting—Root-graft young trees in-doors,—best in a good cellar, where neither grafts nor roots will dry. Never graft on *pieces* of root.

Implements are to be renewed; provide a good stock, mending old and purchasing new ones.

Insects—The eggs of certain insects laid upon the bark are easily discovered now. Let no good orchardist fail to make himself acquainted with them, and destroy as many as he can. Read Fitch's Reports. In warm weather the wingless millers of the cankerworm come from the earth, and should be destroyed.

Labels—Provide an abundance both of wood and zinc. Lead labels are very convenient for the orchard, and may be cut and stamped with numbers or names at this season.

Mice—Stamp down snow close about trees in young orchards—or otherwise defend them against depredation.

Scions may be cut whenever we have a warm "spell," bury them in slightly moist earth or sand—not moister than good soil in Summer; tie up and label accurately.

Surface Drainage—Hard rains coming upon partially frozen ground often do great damage by washing off the surface, if good superficial drainage is not provided.

Stakes—Work out new, to supply the place of those which failed last year. Make them stout and of good stuff, and by all means soak them in a solution of a pound of blue vitriol to 12 quarts of water. They will last five times as long.

Trees too large to be moved in Spring may be transplanted in Winter by digging about them so that the mass of earth in contact with the roots may become a frozen ball, 6, 8, or even 10 feet in diameter, and capable of being moved with the tree. Prune severely before moving, but leave the large limbs so that they may be cut again in Summer to secure well healing scars.

Winds—Tie up to prevent danger from winds when possible, and when it occurs, remove broken trees and branches at once, smooth over the scars, and apply grafting wax or waxed cloth to keep out the rain from cracks.

Kitchen and Fruit Garden.

Lay out spring work—with the vegetable gardener this often begins quite actively next month.

Cold Frames—In very cold weather give extra cover, but remove on warm, sunny days. A good blanket of light snow is worth more than any thing else. See that they do not get damp for want of ventilation, and rot the plants. Give light and air freely in warm weather.

Cuttings of Currants and Gooseberries may be taken in mild weather, and stored in sand. See page 19.

Draining may be pushed in open weather, whenever, indeed, there is neither too much frost nor too much water in the soil. See full chapters in last volume.

Grape Vines, if not already pruned and laid down, may now be attended to. Protect by covering with hemlock boughs. Never handle them while frozen.

Mushrooms—Prepare beds in any place free from frost.

Poles and Pea-brush—Cut and prepare for use, stacking them under cover. It pays well to soak the ends, if not the whole of bean poles in blue vitriol water to preserve them.

Prune fruit trees with the *knife only* this month.

Rhubarb—Force, last of the month, by heaping strawy and heating manure over the crowns; protect well if the weather afterward becomes severe.

Seeds—Buy in time to test every doubtful sample; it saves vexation and many dollars. It is best done by counting the seeds and sowing them in good soil in pots kept under hand glasses, in a warm place, and counting the number that germinate.

Vegetables in the cellar will continue to arrive at perfection, and need care only that they do not freeze or rot. Let them have air on warm days.

Flower Garden and Lawn.

The time is invaluable for reading and getting information. There is little to be done. After, or during heavy snow storms, shake the snow from the evergreens and other trees loaded with it. In warm weather, if the frost is coming out, air the rose pits, (cold pits under sashes where half-hardy plants are kept,) without letting in the sun; so long as they remain frozen, let them alone. The frost can seldom be entirely excluded. If the earth in the pots becomes *very dry*, give a very little water.

When the frost is out of the ground, deep spading brings insect pupæ to the surface, and they are thus destroyed in great numbers. Give the fowls a chance at them if you can.

Borders not yet protected may be covered with light strawy manure, leaves, evergreen boughs or the like. It seldom happens that injury occurs to half-hardy plants of any kind before the "January thaw," or other period of continued warm weather.

Green-House.

Keep the temperature below 60°, and if possible above 35°. Plants which will not bear the least frost, ought not to be kept in a Green-house adapted to oranges, lemons, oleanders, camellias, myrtles, azaleas, roses, etc. Give good ventilation on mild days, and water sparingly, always with reference to the state of the plant, increasing water, warmth, and light, when it begins to grow, or approaches blooming. In the green-house force nothing. Stir the soil in the pots and remove dead leaves. If lice appear, make all tight, smoke thoroughly, and syringe affected plants afterward. When oranges and lemons begin to grow, wash stems with strong soap-suds and crush scale insects.

Protect by mats or shutters on cold nights, and more than all else avoid dampness.

Bulbs—Tulips, hyacinths, crocuses, etc., etc. Pot and keep in the dark and away from the heat till well started; water freely. Hyacinths in glasses or moss, should be treated in the same way. Start them slowly. If already growing, remove them to the hot-house or conservatory.

The description of a "Sixty Dollar Green-House," on page 20 (of this number), will be found worthy the attention of a great number of our readers. Such a house will afford room to start a great number of plants, for transplanting early to the garden.

Hot-House and Conservatory.

In the Hot-house flowering and ornamental plants are propagated and brought to perfection; and in the Conservatory they are placed for show and to minister directly to the enjoyment of the family and guests. Here maintain an atmosphere of uniform moisture and warmth—never allow a drying heat, a scorching sun, or frost. Sprinkle freely those plants whose blossoms are not injured by water. Use, occasionally, liquid manure quite dilute, until plants begin to stop blooming. It gives them vigor, and they feel the change from the hot-house less. Keep growing plants close to the light, and turn frequently. Remove plants at once when their beauty has gone, when they begin to grow much, or when you discover insects or mildew.

Hot-house — Avoid extremes of temperature; this must be graduated according to the class of plants, the degree of forcing, amount of moisture, etc. Admit air through the upper ventilators to avoid drafts.

Cuttings of various plants may now be profitably started, viz: roses, verbenas, petunias, fuchsias, geraniums and the like. See page 19.

All growing plants and those coming into bloom require much moisture, and all the light they can have. Water regularly, sprinkle frequently, but avoid excess.

Pines require the warmest and moistest atmosphere, and should have a separate house or room. Cucumbers force admirably in the same apartment at this season.

Look out for insects; use sulphur for red spider, tobacco smoke for aphides and thrips, tobacco water and soap-suds for scale-bugs, etc.

Keep the soil in pots stirred, and shift growing plants so often that they will receive no check.

Grapery and Orchard-House.

Cold Graperies and Orchard-Houses will need no attention this month, except to maintain them at a uniform and moderately low temperature, and guard against dampness and injury from mice. If there is danger from dampness lay lumps of quick-lime about, say a pound lump under each vine or tree. In houses where a moderate heat is employed, it is still early to lift the vines, and prepare the trees for fruiting, except where a succession of crops is desired; in this case, for the earliest crop, lift the vines, tie them to the rafters, and give inside borders or tubs a good watering with liquid manure; increase the heat and keep it at 45 to 50°—seldom higher—never let it fall to freezing; dampen the floor and wall by sprinkling.

Peaches and Apricots—Treat much the same as above. They will bloom in 15 to 20 days.

In forcing houses, the vines and fruit trees may be in any or all stages of development, and it is impossible to give particular rules; they demand the constant thought and care of the gardener.

Mildew—Whenever mildew appears syringe with water containing sulphur, or lay sulphur on the brick flues.

Apiary in January.

Prepared by M. Quinby—by request.

Bees properly housed, need but little attention; an occasional examination to see that all is right may be made, going among them quietly that they be not unnecessarily disturbed. If mice or rats have found their way into the room, it may be known by the combs having been nibbled. Traps temptingly baited, seem to be the best remedy. It would be dangerous to use poison to destroy them, as it might be communicated to the honey..... Stocks standing in the open air, when secure from the mice, may be covered with snow through all the severe weather. It will effectually protect the bees from frost. If the hive is only partially covered, or a little around the bottom, it should be removed, keeping the air passages free. Ice, snow, or dead bees often accumulate about the entrance and smother the bees. In severe weather, allow the sun to strike the hive. When just moderate enough to tempt the bees out, and cool enough to chill them before they return, shade the hive by setting a wide board before it. When the day is very fine, allow them to fly, except in case of new fallen snow. If the frost at any time leaves the hive, it may be raised and all dead bees and filth brushed out. When all is right, do not disturb them in severe weather.

Seeds for Free Distribution to all Subscribers for 1862 (Vol. 21.).

Every subscriber to the Agriculturist for 1862, is invited to select **four or five parcels** *of seeds from the list below.*

These seeds are all valuable. Of the 90 kinds offered, many are *new* varieties, but we include several common useful sorts for the convenience of those living remote from access to good seeds.

Most of them are annuals (reproducing seed the first season), and in all cases there will be enough to yield a good supply for future use. Our aim is, to furnish the germs of future abundance in each locality where these seeds go.

Many of these seeds have been grown by ourselves, the past year; the others are obtained of the best growers in this country and Europe. The distribution will begin early in February. A description is given in the next columns.

Mode of Distribution.—The seeds may be called for at the office after Feb. 10, or be applied for by mail at any time now, to be forwarded when ready. The postage is only **1 cent per ounce under 1500 miles; and 2 cents per ounce when over 1500 miles.**

Those sending for seeds to be forwarded by mail, will please *carefully* observe the following

DIRECTIONS—(1). Select from the list below, any four or five parcels desired, and write *plainly* on a slip of paper the *numbers* (only) of the kinds of seeds wanted. (These numbers are used on our seed drawers, seed bags, etc.)

(2) Enclose the slip in a prepared envelope—directed in full to your own address, as here shown, and put upon it postage stamps to the amount of **one cent** *for* **each ounce** *of seeds to be enclosed*, if to go **under 1500 miles,** *or* **two cents** if to go **over 1500 miles.** (Most places West of the Mississippi river are over 1500 miles.) **N.B.**—The total amount of stamps required can be reckoned from the table of seeds below. Any fraction over even ounces will need an extra 1c. or two 1-cent stamps according to distance. Forward the above prepared envelopes to this office, and the seeds will be enclosed according to the numbers on the enclosed slip. To save letter postage, let there be *no marks on the envelopes* except the address and stamps. About 2 ounces will go in a common sized envelope.

John Smith,
Albia,
Monroe County,
Iowa.

Field, and Vegetable Garden Seeds.

No.		*Weight of package.*
185	Mammoth Long Bearded Spring Wheat	One ounce.
2	Improved King Philip Corn	One or two ounces.
141	Darling's Early Sweet Corn	About one ounce.
186	Evergreen Sweet Corn	About one ounce.
98	Long Red Mangel Wurzel	About one ounce.
187	Conn. Broad Leaf Tobacco	About one-eighth ounce.
188	Genuine Havana Tobacco	About one-eighth ounce.
191	Mammoth Millet	About one-half ounce.
189	Spelt or German Wheat	About one ounce.
190	Nepaul Barley	About one ounce.
8	Daniel O'Rourke Pea	About one ounce.
9	Champion of England Pea	About one ounce.
99	Prince Albert Pea	About one ounce.
12	Green Kohl Rabi	About one-fourth ounce.
13	Enfield Market Cabbage	About one-fourth ounce.
145	Flat Dutch (Winter) Cabbage	About one-fourth ounce.
192	Improved Stonemason Cabbage	one-fourth ounce.
199	Red Dutch Cabbage	About one-fourth ounce.
64	Extra early Round Turnip Radish	one-fourth ounce.
150	Early Paris Cauliflower	About one-eighth ounce.
147	Neapolitan Cabbage Lettuce	About one-fourth ounce.
72	Imported Brussels Sprouts	About one-eighth ounce.
101	Improved Long Orange Carrot	About one-half ounce.
148	Long dark Blood Beet	About one-half ounce.
149	Extra early Bassano Beet	About one-half ounce.
95	Hubbard Squash, pure	About one-fourth ounce.
193	Fejee & Italian Red Tomato	About one-eighth ounce.
154	Ice-cream Water Melon	About one-eighth ounce.
76	Skillman's Netted Muskmelon	About one-eighth ounce.
194	Hollow Crown Parsnip	About one-fourth ounce.
66	Extra Curled Parsley	About one-fourth ounce.
151	Yellow Danvers Onion	About one-fourth ounce.
152	Fine Large Cheese Pumpkin	About one-fourth ounce.
17	Red Strap-Leaf Turnip	About one-fourth ounce.
71	Long White French Turnip	About one-half ounce.
195	Early Short Horn Carrot	About one-fourth ounce.
74	Solid White Celery	About one-fourth ounce.
103	Sage	About one-eighth ounce.
156	Summer Savory	About one-eighth ounce.
157	Long Prickly Cucumber	About one-eighth ounce.
196	Green Curled Kale	About one-fourth ounce.
198	Improved Purple Egg Plant	About one-eighth ounce.
21	Winter Cherry	About one-eighth ounce.
197	Linnæus Rhubarb	About one-half ounce.

Flower and Ornamental Seeds.

89	Cotton Plant (2 kinds, mixed)	One-half ounce.
111	Castor Oil Bean	One-half ounce.

On an average any **five** *of the following varieties will go under one 1-cent stamp,* (or *two stamps* if over 1500 miles.)

200	Fancy Gourds, (mixed varieties) (*ha*)*	212	Fine Sweet Peas, (*ha*)
201	Scarlet Chinese Egg Plant, (*ha*)	124	Whitlavia, (*ha*)
202	Animated Oats, (*ha*)	49	Candytuft, (*ha*)
177	Graceful Quaking Grass, (*ha*)	123	Gilia nivalis, (*ha*)
23	Mignonette, (*ha*)	182	Sweet Alyssum, (*ha*)
25	Mix'd Nasturtium, (*ha*)	169	Clarkia pulchella, (*ha*)
31	Chinese Pink, (*ha*)	175	Mixed Salpiglossis (*ha*)
32	Portulaccas Mix'd, (*ha*)	168	Swan River Daisy, (*ha*)
51	PhloxDrummondii, (*ha*)	50	Mixed Schizanthus, (*ha*)
30	Tassel Flower, (*ha*)	40	Escholtzia Californica, (*ha*)
37	Beautiful Zinnias, (Mixed) (*ha*)	213	Xeranthemum Annum (*ha*)
203	MixdGermanPoppy, (*ha*)	126	Long tubed Centranthus, (*ha*)
204	Mxd FrenchPoppy, (*ha*)	216	Acrocilinum Roseum, (*hha*)
205	Double French Marigold, (*ha*)	214	Balloon Vine, (*hha*)
183	Fine Mixed German Asters, (*ha*)	27	Coxcomb, (*ta*)
206	Golden Straw Flower, (everlasting) (*ha*)	33	Cypress Vine, (*ta*)
208	Crimson Globe Amaranth, (everlasting) *ha*	207	Rhodanthe Manglesii, (everlasting) (*ta*)
210	ConvolvulusTricolor, *ha*	122	Mixed Canterbury Bells, (*hb*)
173	Mixed Larkspur, (*ha*)	125	Standing Cypress, (*tb*)
167	MalopeGrandiflora, (*ha*)	42	Foxglove, (*hp*)
211	Fine Mixed Lupins, (*ha*)	209	Dw'f BlueLarkspur, (*hp*)
		171	Forget-Me-not, (*hhp*)
		215	EccremocarpusVine, *tp*

* (*ha,*) hardy annual; (*hha,*) half hardy annual; (*ta,*) tender annual; (*hhb.,*) half hardy biennial; (*tb,*) tender biennial; (*hp,*) hardy perennial; (*hhp,*) half hardy perennial; (*tp,*) tender perennial.

Descriptive Notes upon the Seeds in our List for free Distribution in 1862.

We devote considerable space to a condensed description of the 90 varieties of seeds named in the preceding column. These notes will afford some information upon the character and cultivation of the several plants, where ever the seeds may be obtained, and they should be preserved for reference in the Spring planting season More full directions for the culture of these and other plants will, of course, be given from time to time, in separate articles. The Calendar of Operations, from month to month, will also suggest the time of sowing or planting. Most of the field seeds are necessarily in too small quantity for a crop, but with a little care in culture each parcel will produce a fair supply for a good sized crop the next year. Our seeds will not be ready for distribution at all before the first or second week in February, of which information will be given in the next paper. But we desire to now get in all applications (as per preceding columns) at the earliest moment possible, that we may be able to arrange the supply in proportion to the demand.

For brevity, the *Numbers* are always used in putting up and sending out seeds, and subscribers are particularly desired to note this in their application. To avoid confusion, we use a new number for each addition, dropping the numbers of any seeds previously offered, but not retained in this list. The additions of the present year number from 183 to 215, all the seeds numbering from 2 to 183 belonging to previous lists.

Field and Garden Seeds.

No. 2.—Improved King Philip Corn.—A rapid growing, 8-rowed sort, larger than the old King Philip, both in the stalks and in the ears; when pure, of deep brown color and heavy. It ripens with us in 95 to 100 days from planting—in drills scant 3 feet apart, and kernels dropped 10 inches asunder. We have been so pleased with it in the previous two years that we last Spring planted 3 acres for this year's distribution. It may be planted later than the common varieties and further north.

No. 8.—Daniel O'Rourke Pea.—An early sort of fair quality, grows 2 feet high, and may be eaten in 40 to 45 days from planting. Sow from first to last of April, according to climate, or any time in May to multiply seed.

No. 9.—Champion of England Pea.—A later, tall-growing variety. We want nothing better than this sort, which is our chief dependence for a table pea through the season. Sow as No. 8, or at intervals until middle of July, if seed is plenty.

No. 12.—Green Kohl Rabi, or Cabbage Turnip.—The bulb, which resembles a turnip, grows above ground like a cabbage. Plant early in May, the same as turnips, and for table use boil the bulbs when still tender. They acquire a toughness if kept till Winter. This is coming largely into use for cattle and sheep, in England.

No. 13.—Enfield Market Cabbage.—We have already distributed this 3 years, and it is liked so well that we offer it again. It is a quick-growing sugar-loaf variety, sweet and tender. Sow in hot-beds early in April, or in open ground the last of April or early in May, and plant out 18 inches apart, in 2 feet rows.

No. 17.—Red Strap Leaf Turnip.—A very quick growing variety of the flat or Dutch species, with a reddish or purple top. They are good for the table, while growing, and for stock during Autumn and early Winter. Sow in drills from the first of April to September.

No. 21.—Winter Cherry (*Physalis viscosa*).—Called also, Ground Cherry, Cape Gooseberry, etc. This grows wild in some places, but not so large fruit as when in cultivated soil. The fruit grows in capsules, is about the size of common cherries, when ripe is liked by many persons, eaten raw, and makes a fine preserve if done up with a little sugar and some lemon juice. The fruit will keep through the Winter in any cool room. We grow it every year, and it is so well adapted to new countries where there is no other fruit, that we replace it in the seed list. Sow early in Spring, the earlier the better, as the seed frequently lies in the ground until June. When once started it grows rapidly, and a single plant covers four to five feet in diameter, in rich soil.

No. 64.—Early Turnip Radish.—A quick-growing round sort, crisp and sweet. Sow at any time after frost is out in Spring, and at intervals until September. If the early sowings are allowed to go to seed, a second crop may be raised from this seed the same season. It always reproduces seed the first year.

No. 66.—Curled Parsley.—Sow at any time in May,

for Summer use, or in August for transplanting to cold frames or boxes for Winter. Cover lightly with fine earth.

No. 71.—LONG WHITE FRENCH TURNIP.—This is of the form of the rutabaga, but is white, very fine, sweet flavor. May be sown at all seasons for table use. For Winter use and feeding, sow early in July, and during the month.

No. 72.—BRUSSELS SPROUTS.—Button cabbages, growing singly or in clusters upon a cabbage stump. Sow and cultivate as cabbages, using the small heads for boiling. They are more delicate than ordinary cabbages.

No. 74.—SOLID WHITE CELERY.—Sow in hot-bed in April for early or in open ground during May or June for late crop. See chapter in type for this or the next *Agriculturist*. The blanched stalks are eaten raw, with meats, etc.

No. 76.—SKILLMAN'S NETTED MUSKMELON.—So called from its rough skin. A round, sweet, and rich sort, with green flesh. Plant as Watermelons.

No. 95.—HUBBARD SQUASH.—The best *Winter* squash we have tried. Keeps until Spring. Plant middle of May. Color dark green to light blue, hard shell, with rich dry flesh. It is also good for Autumn use.

No. 98.—LONG RED MANGEL WURZEL.—A large stock beet, sometimes reaching 15 to 20 lbs. in weight. It is much raised in England, and is valued highly for feeding. Produces immense crops, from 25 to 30 tuns per acre. A Connecticut correspondent, (page 362 Vol. 19) reported 36 tuns or 1300 bushels on an acre. Sow last of April, or early in May, on a deep rich soil, in drills 2 feet apart, and when well up thin to 1 foot in the row.

No. 99.—PRINCE ALBERT PEA.—An early English sort, growing about 3 feet high. Has proved very good with us, in two years' trial. Sow same as No. 8.

No. 101.—IMPROVED ORANGE CARROTS.—A fine yellow variety, suitable for the table or for stock. Sow early in May, on deep, rich soil, in rows 15 to 18 inches apart.

No. 103.—SAGE.—A small bed should be in every garden. Sow at any time in May, in rows one foot or more apart, covering less than half an inch. The perennial roots will yield two pickings each season.

No. 141.—DARLING'S EARLY SWEET CORN.—We have tried many other early sorts, but come back to this, as combining sweetness, and rapid maturity. It is quite small in stalk and ear, and may be planted in hills or drills 2 to 2½ feet apart, unless other crops are put between the rows to occupy the ground after this is out of the way, which will be before mid-summer if planted early. It may be planted all Summer for a succession, among early cabbages or potatoes.

No. 145.—FLAT DUTCH CABBAGE.—A Winter sort, extensively grown for market, frequently under the name of "drumhead." The heads are large, and require to be 2 feet apart, in 2½ feet rows.

No. 147.—NEAPOLITAN CABBAGE LETTUCE.—A large solid sort, which has proved valuable. Sow at any time in April, May, or June, covering lightly. Leave sufficient plants for seed, which is reproduced the first season.

No. 149.—EARLY BASSANO BEET.—A fine, quick growing, turnip shaped sort, for early use. Sow in drills one foot apart.

No. 150.—EARLY PARIS CAULIFLOWER.—One of the best sorts. Has a white, solid flower. It has given good satisfaction to most of those who have received it from our former distributions, and we reintroduce it—knowing nothing better. Sow and treat every way as cabbages.

No. 151.—YELLOW DANVERS ONION.—A large, flat onion which commands the highest market price. Sow last of April on a warm soil in rows 10 to 12 inches apart, covering lightly.

No. 152.—LARGE CHEESE PUMPKIN.—Acknowledged the best for general culture. A large, flat, cream colored variety, sweet, and good keepers. Plant middle of May, allowing ample space for them to run.

No. 154.—ICE CREAM WATER MELON.—One of the best sorts, sweet and tender. Plant in open ground about the middle of May, and can be started earlier in hot-bed.

No. 156.—SUMMER SAVORY.—A well-known, and unusually aromatic herb. Sow in April or May; cover lightly.

No. 157.—LONG PRICKLY CUCUMBER.—A much commended sort. Plant at any time in May or June and keep watch for striped bugs as for all cucumbers.

No. 184.—LONG BLOOD BEET.—A good tender sort for the table during Autumn and Winter. Sow middle to last of May in light, deep soil, in rows 1½ foot apart.

No. 185.—BEARDED SPRING WHEAT.—A very excellent wheat which we found growing in a field in Westchester Co., N. Y., last year. The berry was as plump and fair as the best of Winter Wheat, and the yield large. It seemed to be specially worthy of introduction and trial elsewhere. Our parcels, planted or sown in drills, in April or May 1st, will furnish a fair supply for next year.

No. 186.—EVERGREEN SWEET CORN.—A much larger variety than No. 141, a slower grower; not quite so sweet; remains in the milk state a long time, hence called evergreen. Good for later table use, and for fall drying. If to be ripened for seed, plant early; for table use, from May 15 to June 20, in hills or drills 3½ to 4 feet apart.

No. 187.—CONNECTICUT SEED-LEAF TOBACCO.—Offered in response to many inquiries. The seed is so minute that it is better to mix it with earth or mold, and sprout it by keeping warm and moist for 2 or 3 days. A thimble full of seed will furnish plants for an acre. Sow in a sheltered seed-bed about the middle of April, and plant out middle of June, on rich dry soil, 3 feet apart each way, or 3½ feet by 2 feet to facilitate working with a horse hoe. For after treatment see future articles on Tobacco.

No. 188.—HAVANA TOBACCO.—Treat as No. 187, save that it requires less room—say 3 feet each way. Keep the ground well stirred and free from weeds.

No. 189.—SPELT, OR GERMAN WHEAT, called also "Dinkel," is little known in this country; and, owing to numerous inquiries from our German subscribers, we have imported a quantity for distribution. Sow early in Spring, as ordinary Wheat. It will flourish on common soil. For a full description, see page 104, vol. 19.

No. 190.—NEPAUL BARLEY.—A curious sort, illustrated on page 261, last volume (September No.) It parts from its hull the same as rye, and is said to yield a heavy crop. Sow early in May—in drills, to obtain the largest results from a little seed.

No. 191.—MAMMOTH MILLET.—An annual, very productive in seed and foliage. Cut green, it makes good hay, or left to ripen, the straw is good, and the seed valuable for stock and poultry. Sow thinly half an inch deep, at any time in May.

No. 192.—STONE MASON CABBAGE.—A solid cabbage, very good, of compact form, and keeps well. We tried it last year, and like it much. Sow and treat as No. 145.

No. 193.—FEJEE AND ITALIAN TOMATOES.—Large, smooth and solid varieties, the best we have grown. Sow in hot-bed, April 1st for early, or first of May in open ground for later.

No. 194.—HOLLOW CROWN PARSNEP.—A large, long and sweet variety, with a depressed crown. Sow in deep, rich soil, early in May, in rows 18 inches apart, covering lightly. Best after being left in ground over Winter.

No. 195.—EARLY SHORT HORN CARROT.—A fine yellow variety for early table use. Sow in light soil last of April or first of May, in drills 1 foot apart, covering lightly.

No. 196.—GREEN CURLED KALE OR BORECOLE.—A kind of cabbage which does not head. The whole top is boiled for greens; usually in Spring, as it bears standing out over Winter, with (and often without) a slight covering of straw or brush. Sow from April to June, and treat the same as late cabbages.

No. 197.—LINNÆUS RHUBARB.—Sow in deep mellow soil in April or May, covering ½ inch. Keep well hoed, and transplant the following Spring when a few stems may be pulled for cooking. A full crop can not be had until the 3d year, on which account it is better to purchase and plant roots at once when they can be had. It furnishes a fine material for early sauce and pies, and should be in every garden.

No. 198.—PURPLE EGG PLANT.—There are many fanciful sorts, but this is the most approved variety for general culture. Sow in a hot-bed, early in April and plant out 18 inches apart, the middle of May, or after all danger of frost is over. It is still better sown in, or transplanted into small pots, keeping them under glass till June, when the whole may be transfered to the soil, without disturbing the plants.

No. 199.—RED DUTCH CABBAGE.—Highly valued for pickling and for "cold slaw." Heads small, sugar loaf form, and solid. Set plants 15 to 18 inches apart each way. Its color is fancied by most persons.

Flower and Ornamental Seeds.

No. 23.—MIGNONETTE (*Reseda odorata*)—An annual in this climate. The flowers not conspicous but yield a rich odor. Its habit is low, branching upon the ground; flowers profusely from midsummer until frost; may be potted for winter blooming. A great favorite. Sow as early as the ground can be worked—the seed is long in coming up.

No. 25.—MIXED NASTURTIUM (*Tropæolum majus, in var.*).—This peculiar plant is very showy in flower, and the fruit, a green capsule, is highly prized for pickling. The common varieties are rambling and delight to climb over fences, bricks, rough stone walls, etc. Others are dwarf and bushy. Sow in May and thin to one foot apart in single rows. Annual.

No. 27.—COCKSCOMB (*Celosia cristata.*)—A very curious and common annual, native of the East Indies. Flowers in fantastic, irregular spikes, inclining to the fan-shape, like the comb of the cock, and of the richest crimson color. Sow in rich soil, early, and thin to 18 inches apart.

No. 30.—TASSEL FLOWER (*Cacalia coccinea*).—Called also "Venus Paint Brush." A delicately beautiful annual, growing 1 to 2 feet high, and blossoms freely. The scarlet flowers are little perfect tassels, very bright and pretty. Sow in May and thin out or transplant to 6 or 10 inches.

No. 31.—CHINESE PINK (*Dianthus Sinensis*).—A very pretty little annual of this fine class, most of which are perennials treated like an annual. It is not fragrant like the Sweet William, nor does it grow in clusters. Color varies from maroon and crimson with pink edging, to white with a red center. They flower for many weeks in succession, and are desirable in every flower plot. Sow in early Spring. The roots frequently survive the Winter.

No. 32.—PORTULACCAS, MIXED (*Portulacca splendens, in var.*).—Low growing annuals, fleshy leafed and spreading upon the ground like purslane. Flowers of various brilliant colors. May be sown at any time and will continue in flower, until cut down by frost.

No. 33.—CYPRESS VINE. (*Quamoclit vulgaris.*)—One of the finest annual climbers, with delicate feathery foliage and bright trumpet shaped flowers. It will climb a string or other support 12 to 18 feet in a season, and is a fine plant to train in a cone shape around a central stake. Soak the seed for 12 hours before sowing and only put it in when the ground is warm. Sow May 1st to June 1st, according to the locality.

No. 37.—ZINNIAS, (mixed) (*Zinnia elegans*). — This beautiful Mexican plant is a brilliant addition to the flower garden. It is tall, elegant and showy, with flowers of many colors, purple, crimson, orange, scarlet, violet and white. Sow middle of May, keep plants 18 inches apart.

No. 40.—ESCHSCHOLTZIA (*E. californica.*)—Annual or biennial plants with orange-colored tulip-shaped flowers, very showy. Sow in May, or earlier, in hot-beds and transplant. Sometimes called California poppy.

No. 42.—FOXGLOVE (*Digitalis alba, purpurea, etc.*).—A perennial, blooming the second year from seed. The flowers are very pretty, often beautifully mottled with purple and brown spots. They grow 2 to 4 feet high and flower upon a spike beginning at the bottom, and continue in bloom for several weeks. The medicine digitalis is obtained from the leaves and seed of this plant. Sow in early Spring. The roots often die out after flowering a year or two.

No. 49.—CANDYTUFT (*Iberis umbellata, and amara.*)—Suitable for massing or for borders. An annual with clusters or umbels of small flowers, of various colors from pure white to purple. Grows 6 to 12 inches high, and blooms most of the season. Sow early in Spring.

No. 50.—SCHIZANTHUS (*S. pinnatus, in var.*).—Beautiful annuals, with yellow, purplish or scarlet flowers. Sow in May, or earlier, in open ground.

No. 51. PHLOX DRUMMONDII (*Phlox Drummondii.*)—A very beautiful annual, the delicate flowers of which exhibit a very great variety of marking. Grows 12 to 18 inches high, requires little care, blooms constantly and is beautiful in masses. Sow early in May.

No. 89.—COTTON PLANT (*Gossypium herbaceum* and *barbadense*).—The Upland, with a little Sea Island Cotton Seed, both in the same package—the Upland downy, the Sea Island naked. The Upland, sown in the Spring, and protected from frost, will mature its bolls in the Autumn, south of 40° or 41°, and *bloom* wherever corn will grow. The plant grows 3 feet to 5 feet high; the flowers are showy—bright yellow, with purple eye. Sow at corn-planting, in drills, and thin to 18 inches apart.

No. 111.—CASTOR OIL BEAN (*Ricinus communis*).—A stately plant, 5 to 10 feet high, with broad tropical foliage, which is showy and beautiful. It is a very rank grower, and needs a rich, warm soil. Sow in the open ground, and leave 2 to 3 feet apart.

No. 122.—CANTERBURY BELL. (*Campanula media.*)—Showy, pretty biennials, flowering the second year from seed, and sometimes living 3 or 4 years. They bloom along a spike 2 to 3 feet high; flowers of perfect bell shape, large, and in some varieties double; white, lilac, blue, and intermediate shades. Sow at any time in May or June, and transplant in the Fall to 1 foot apart in rows, or set in groups.

No. 123.—GILIA (*G. nivalis.*)—An annual of 1 foot in hight, delicate growth; white or variegated flowers, growing in panicles, and finely divided leaves. Good for massing. Sow early in Spring.

No. 124.—WHITLAVIA (*W. grandiflora.*)—This new California annual pleases us much, blooming 5 to 6 weeks from sowing, and continuing in flower until October. Its blue, bell-shaped flowers resemble the campanulas. Sow

early in May, and thin to 6 inches apart, as it only attains a hight of 1 foot.

No. 125.—STANDING CYPRESS. (*Ipomopsis elegans*—regarded by some as a *Gilia.*) A very beautiful biennial. The foliage and habit is feathery and delicate, the flowers rich scarlet, borne on a spike; hight 2 to 4 feet. Sow in Spring and slightly protect in Winter; blooms all July and August.

No. 126.—LONG-TUBED CENTRANTHUS (*C. macrosiphon.*)—An annual of rather delicate appearance, but hardy and desirable. Flowers fascicled, (in bundles or clusters,) tubular, borne on stalks 10 to 12 inches high. Continues in bloom until frost. Sow early in Spring, and thin to 6 inches.

No. 167.—LARGE FLOWERING MALOPE (*Malope grandiflora*).—A fine annual of the mallows family, 2 to 3 feet high, with large rosy crimson flowers, blooming from June to October. Sow in May, one foot apart in rows.

No. 168.—SWAN RIVER DAISY (*Brachycome iberidifolia.*)—A very pretty annual of dwarf habit, growing 6 to 8 inches high, with dark blue, pink and white flowers which open from July to September. Sow early in Spring.

No. 169.—BEAUTIFUL CLARKIA (*Clarkia pulchella.*)—A hardy, Rocky Mountain annual of decided beauty, growing 1 foot high. Flowers, light purple, opening from June to September. Sow last of April or first of May. A good border flower.

No. 171. FORGET ME NOT (*Myosotis palustris*).—Low growing perennial with delicate flowers in clusters of light blue color, with white or yellow eyes. Blooms the first season. Sow in early Spring. Flourishes in good, somewhat shaded, garden soils, but delights in moisture.

No. 173.—MIXED LARKSPURS (*Delphinium consolida.*) Annuals of white, rose, pink, blue, and variegated colors, growing from 2 to 3 feet high. Some of the species are double and very pretty. Flowers in spikes for a long time in succession. Sow very early, as the seeds lie long in the ground; they are very hardy.

No. 175.—MIXED SALPIGLOSSIS (*Salpiglossis atropurpurea, atrococcinea, azurea*, etc.)—Originally from Chili, where they are perennials, but with us they are annuals, sown early in frames and afterward planted in the open ground. Flowers beautiful, of various colors.

No. 177.—QUAKING GRASS (*Briza gracilis*).—A beautiful nodding grass, growing 3 feet high. The heads or panicles resemble the rattles of the rattlesnake, and dry so as to be very ornamental in bouquets of dried flowers. Sow in early Spring.

No. 182.—SWEET ALYSSUM (*Alyssum maritimum.*)—An annual, nearly 1 foot in hight, flowering in long racemes, from June to November, or until killed by frost. Sweet-scented; flowers white. Sow in early Spring, and thin to 1 foot apart, unless massed, for which it is well suited.

No. 183.—IMPROVED FRENCH AND GERMAN ASTERS.—A beautiful, hardy annual; see description and mode of culture, on page 16. Many of our own plants furnish more beautiful and perfect blooms than those there shown. Owing to the limited production of seed in perfect flowers, our parcels must be small if the demand is large, although we have saved for distribution all that ripened on a quarter acre.

No. 200.—FANCY GOURDS (*Lagenaria vulgaris, in var.*)—Cultivated for the singularity or beauty of the fruit; vines climbing. Plant like cucumbers, near a trellis, or provide poles; protect against insects.

No. 202.—ANIMATED OATS (*Avena sensitiva*).—A large oat-like grass; the seed very hairy, having long, strong, twisted and bent crowns (or beards), which revolve and twist when they become damper or dryer. They are effected by the warmth of the hand, and both look and move like insects. Sow May 1.

No. 203 and 204.—GERMAN AND FRENCH POPPIES (*Papaver somniferum and Rhœas fl. pl.*).—Of this common yet very showy species there is an infinite variety in form and color. The culture is simple. Sow in beginning of Spring, thin out to several inches apart: bloom in July.

No. 205.—DOUBLE FRENCH MARIGOLD (*Tagetes patula fl. pl.*)—A very showy annual of 2 to 3 feet high; flowers bright yellow to dark brown, and often beautifully striped and margined; of fine form. Sow beginning of May; blooms from July to frost.

No. 206.—GOLDEN STRAW-FLOWER (*Helichrysum bracteatum, etc.*)—One of the most common of the *immortelle* or everlasting flowers; flowers yellow, white, pink and scarlet. Grows 2 or 3 feet high. Sow upon borders in May. Pick flowers before expanded, for Winter bouquets.

No. 207.—SWAN RIVER IMMORTELLE. (*Rhodanthe Manglesii.*)—One of the most delicate and beautiful of annuals; a foot high, branching habit. The numerous silvery buds expand to starry, rose-colored, fadeless flowers. Sow the light seed shallow in sandy loam. It is very pretty grown in pots. Sow in May, and leave 1 foot apart.

No. 208.—GLOBE AMARANTH (*Gomphrena globosa*).—One of the fadeless flowers, regarded as emblems of immortality. It grows 1 to 2 feet high. The flowers are in globular heads, ½ to ¾ in. diameter. Sow as early as the soil is warm, and protect from frost, or better sow in the hot-bed in April and transplant to the garden in May.

No. 209.—DWARF BLUE LARKSPUR (*Delphinium formosum.*)—A fine herbaceous perennial, which will bloom the first season; 18 inches high; flowers ultramarine blue, very rich; continues in bloom from July to September. Sow early in May.

No. 210.—DWARF MORNING GLORY (*Convolvulus tricolor*).—A very showy annual, growing 14 to 20 inches high; the funnel shaped flowers, blue, white and yellow. Sow early in May. Blooms from June to October.

No. 211.—FINE MIXED LUPINS (*Lupinus*).—The lupins comprise some of our most showy border flowers, and there is a great variety comprised in several botanical species. The pea-shaped flowers grow in spikes or clusters, and are of yellow, blue, white, pink, and other tints. Sow very early and thin or transplant 6 inches or 1 foot apart. The more delicate varieties do best sown later. Middle to last of May.

No. 212.—SWEET PEAS (*Lathyrus odoratus.*)—A familiar annual, valued for the remarkable sweetness and beauty of its flowers. Its habit, mode of flowering, etc., is much like the garden pea, but it is much more delicate. The flowers are of many bright colors, (red, white and blue,) beautiful in bouquets.—A great favorite. Sow early, in good soil, seeds 2 inches apart; requires brushing; grows 2 to 6 feet high.

No 213.—IMMORTELLE (*Xeranthemum annuum.*)—Another beautiful everlasting flower. The flowers are fadeless, purple, red, white, pink, yellow, etc.; grow from 2 to 3 feet high. Sow early in Spring.

No. 214.—BALLOON VINE (*Cardiospermum haliacabum.*)—A curious climbing vine, native of the river banks west of the Mississippi. The seeds grow in a large inflated capsule. Vine 4 to 6 feet long. Sow early, in the open ground; flowers in July and August.

No. 215.—ECCREMOCARPUS VINE (*E. Scaber*).—A rapid growing climber, with pretty, compact foliage, from which the numerous clusters of light orange colored flowers project like golden ears of wheat; bears the frost till quite late. Sow in pots or frames, so as to have it bloom all summer, or in the open ground, cover slightly; transplant near old stumps or trellisses.

No. 216.—ACCROCLINIUM (*A. roseum.*)—An everlasting flower, similar to but more robust and hardy than No. 207. Grows from 1 to 2 feet high; flowers rose-color, very pretty. Sow middle of May, in sandy loam, or grow in pots and turn out into the open border first of June. In stiff soil, make drills, and cover lightly with sandy soil.

Exhibition Tables at the Office of the American Agriculturist.

In addition to the Corn Bread, noticed on page 25, the following articles have been exhibited since last report:

VEGETABLES, ETC.—*Potatoes.*—Worcester's Seedling and California Seedling, exhibited by Henry Edgar, Thompson, L. I....Sweet potatoes, by Wm. M. Taylor, Keyport, N. J.....Two hills sweet potatoes, by J. C. Thompson, Staten Island....Another freak of nature, a sweet potato, grown through a buckle-hole, in a leather strap, by Mrs. M. H. Tanner, Billingsport, N. J....Garnet Chili potato, reported yield 254 bushels to the acre, 50 bushels more than the mercers planted along side, by P. H. Foster, Babylon, L. I....Collection of potatoes, very fine, by W. S. Carpenter, Rye, N, Y. ...*Beans.*—Chili Lima beans, of very superior flavor and extraordinary size, by W. F. Heins, Esq., Woodstock, N. Y. ...New French string bean, and yard beans, by John F. Simmons, N. J ...*Cauliflower.*—Very large, by W. F. Heins, Woodstock, N. Y....*Squashes, etc.*—Boston marrow, and true Hubbard squash, S. B. Conover, Washington Market, N. Y....Hubbard squash, by I. D. McCabe, Scarsdale N. Y....Crooked neck squash, by R. M. Cary, Factoryville, L. I....*Tomatoes.*—Very fine and large, by Edward Walter, Fort Lee, N. Y.....Fine Tomatoes, by Jacob Young, Greenport, L. I...*Onions.*—Red and white by W. J. Spence, L. I....*Pine Apple* in full perfection, nearly ripe, in pot, by C H. Lilienthal, Yonkers, N. Y... Pine Apple pumpkin, by S. B. Conover, Washington Market, N. Y....Two seven year pumpkins, one of which is now 2 years old, and the other one year old, both in beautiful preservation, kept only in a dry cellar; by J. C. Thompson, Staten Island....Still another freak of nature, a radish grown through a beef bone, by Mr. Cummings, editor of New-York Observer, Rye. N. Y....A carrot, very fine, 3¾ lb., by P. S. Sheperd, Mamaroneck, N. Y....A large Lima pumpkin, of fine shape, 7 feet 2 inches in circumference and weighing, when picked, 204 lb. by Geo. Barclay, New Hamburg, Dutchess Co. N. Y. ...Long Island Beet, 15 lbs., by Charles King, Port Richmond, S. I., N. Y....Long white French turnip, 11¾ lbs. Long orange carrot. Long Red beet, King Philip corn, fine, and parsneps, by A. M. H., Rye, N. Y. (came by express, full name not given)....Mangel wurzel, by Mr. Jones, Lyons Farms, N. J....Turnip Beet, 14¼ lbs., by J. E. Chapman, Perth Amboy, N. J... California bottle Gourd, 3 feet 10 inches long, by Joseph Schare, Brooklyn, N. Y....Strap leaf turnips, and fine green-top yellow carrots, by L. Jacobs, Westfield, S. I., N. Y....Large Radish, 3 lbs., East 76th street, N. Y.... White Sugar Beet Mr. Plato, Darien Depot, Conn....Cotton, grown by Joseph Storres, Madison, N. J....One root of red clover 5 feet high, S. Barfoot, Kent Co., Md. Solid white celery, very large and fine, grown between corn, by McKearns, gardener to Wm. Shaw, Esq., Clifton, S. I., N. Y.... Crystal flint corn, and 8 rowed thin flint, by D. V. Brower, Bergen Co., N. J....First importation of cotton from *Beaufort, S. C.*, by Henry J. Winser, Esq., (of N. Y Times)....16 and 18 rowed corn, L. Canington, Comango, Douglass Co., Ill....Jersey white and yellow corn, very fine, by J. Wood, Rockaway, N. J....Java wheat, China Tea wheat, and mammoth timothy head, by Mr. Dickinson, St. Johnsville, Vt....Cotton grown out of doors, and King Philip corn, Dr. Tuthill, Rye, N. Y. *Zea caragua*, or South American corn, fine, white, by W. F. Heins, Woodstock, N. Y....Atwater hybrid corn, by I. V. Leroy Crugers, N. Y.....New 18 and 20 rowed corn, by Mr. Cropsy, Plainfield, Ill....Liberia coffee by J. P. Shultz, Rock City. Dutchess Co., N. Y....Flint corn, tripie, curiously grown, by Peter Starr, Passaic Co., N. J....Forest Prince Apple by J. D. McCabe, Scarsdale, N. Y.

FRUITS, ETC.—Rice Corn, Rev. Mr. Noble, Hudson City, N. J.....Collection of Western Apples, from Henry Avery, Burlington, Iowa....New-Rochelle Blackberries, Belle de Fontenay Raspberries, all in perfection, Oct. 18, by Orange Judd, Flushing, L. I.....Fruit of the Osage Orange, by Mr. Brick, Brooklyn, L. I.....Japanese Quince, by R. H. Wyatt, Manaton, Staten Island....Variety of Apples, by Miss Knowles, Middletown, Conn.... Baker Apples, fine, by F. A. Rockwell, Ridgefield, Conn. ....Sample of Grapes, 2nd crop, Isabella, flowered in 2nd week of August, 16 bunches on vine 14 years old, remarkable, by T. McCune, South-6th Street, Brooklyn, E. D.....Joan Apples, by G. Weisher, Staten Island.... Grapes wanting a name, by P. W. Caesar, 20 Beaver-st., New-York....Catawba Grapes, G. Pollock, Morrisania, N. Y.....Seedling Apples, wanting a name, from D. C. Benton, Quincy, Ill.... Pecan Nuts, and bottom Hickory Nuts, by J. Dewey Woodruff, Quincy, Ill.

FLOWERS.—Apple blossom (several on the tree, Oct. 19th,) by Mr. Hume, Manhattanville, N. Y.....Cut flowers in profusion, of various kinds, also red and yellow Capsicums, by O. Judd, Flushing, N. Y.....Pompone Chrysanthemums, Dahlias, Cut flowers, (at various times) Carnations, etc., by C. S. Pell, N. Y. Orphan Asylum. Dahlias and Monthly Belgian Honeysuckle, by John F. Simmons, N. J.....Abutilons, Cobæs, Zinnias, roses, etc., by C. S. Pell, Orphan Asylum.....Pompone Chrysanthemums, very fine, from Peter Henderson, Jersey-City, N. J., and 9 John St., N. Y.....Chrysanthemums, most tastefully arranged on card board upon white paper, 64 varieties, some the newest, by W. F. Heins, Esq., Woodstock, N. Y. Strelitzia, very fine bloom, C. H. Lilienthal, Yonkers, N. Y.... Splendid Bouquet, of many hundreds of bloom, gathered Nov. 19th, and made up of dwarf and pompone Chrysanthemums, Mignonette, Petunias, Stocks, evergreens, etc., etc., by W. F. Heins, Woodstock, N. Y....Winter Cherry, (Physalis viscosa,) fine, by Jacob Youngs, Greenport, L. I.....Two Yuccas Seedling, by A. S. Fuller, Brooklyn.

MISCELLANEOUS.—Horned Toad, from A. S. Siler, San Peto Co., Utah....Star Mole, by C. E. Wheeler, N.Y.... Tomato Wine, made in 1859, by W. F. Heins, Woodstock, N. Y.....New grafting cloth, Wm. Thompson, Staten Island....New Fruit Picker, by A. M. Halsted, Rye, N. Y., and another by N. G. Carnes, Riverdale, L. I.....A piece of Shell, thrown from the Wabash Frigate during the bombardment of Port Royal, by J. McCarthy. Honey, fine specimen of clover make, in glass case, by M. Quinby, St. Johnsville, N. Y.

☞ Our tables are always free for the exhibition of useful articles, or those interesting to the public. Those pertaining to the Farm, Garden, or Household, are most appropriate.

Cotton in the Central States.

Not the perennial cotton which has made some talk of late, and which has been selling at 20 cents per seed, but the common cotton of the Southern States. We have fine, well matured samples on our exhibition tables, grown in open ground, in Westchester County, N. Y., and others have been shown from Long Island and New-Jersey, raised last year. This establishes the fact that, in favorable seasons, good cotton can be raised as far north as 41°, and that it will ripen in any ordinary season in Delaware, Maryland, Southern Ohio, Indiana, Illinois, Missouri, Kansas, and California. It will doubtless be planted more or less in all of these States, and further north by starting seeds in hot-beds, and afterward planting out in the open ground. There is no difficulty in the treatment. The seed vegetates readily, and if sown where it is to grow, may be 3 or 4 feet apart, drilled in thickly, and afterwards thinned to 15 or 18 inches distant. A seed drill will greatly facilitate the planting. If started by artificial heat, prepare the hot-bed and sow about the middle of April, transplanting after all danger of frost is over, during the latter part of May.—Of course we do not expect to go into extensive cotton growing at the North, but every one may raise a little as an ornament and thus perhaps do something toward acclimating the plant

Cotton at the North.—Theo. Tilton, of New-York Independent, has raised sufficient cotton in his yard at Brooklyn, to make a shirt for himself. The seeds were started in a hot-bed, and afterward planted in the open garden, where the bolls ripened their seed. We have some of the cotton on our exhibition table.

Containing a great variety of items, including many good hints and suggestions which we give in small type and condensed form for want of space elsewhere.

To Correspondents.—Our Basket Columns are rather crowded by the necessary Seed Notes, and several items are left over. Indeed, we are now receiving a great number of hints, queries, etc., in renewal letters, which will furnish interesting topics to be discussed as we have room hereafter. We solicit such items without limit.

The Prize Essays.—In response to our offers, some sixty essays were sent in. They have been handed over to competent committees, who are at work upon them as they have time: but as there are more than **1500** pages of manuscript to be read over, it will require considerable time to go through with the whole, and decide upon their relative merits. As fast as we receive the decisions in the several classes, the successful competitors will be notified and the money be subject to their order. We shall publish the best essays in the order most appropriate to the successive seasons.

A Young Man who knows nothing of Farming.—J. Y. will do well to put his $300 at interest, and to hire himself to a good farmer, till his $300 becomes $400, and he becomes pretty well initiated into the business. We would about as soon undertake to live by our pen without knowing our letters, as to live by farming without some previous experience,—such as he could get with a first-rate farmer.

A Great Pumpkin.—We have had "some pumpkins" on exhibition since the harvest season, the largest of which is a Lima variety which was raised by Mr. Geo. Barclay of Dutchess Co., N. Y., and weighed 204 pounds, when t ken from the field. It is of an orange color, splashed with cream, oblately flattened,and ribbed. It measures 7 feet 2 inches in circumference.

A Chestnut Orchard.—The Chardon Democrat says that E. J. Ferriss, of Lake Co., O., has an orchard of 100 chestnut trees, just coming into bearing. He has an accidental variety, very large and early, which he is multiplying by engrafting, and is sanguine that chestnut culture will prove remunerative, as late frosts in the Spring never injure the flowers, as they do not appear until about the 10th of July.

Iowa Apples.—Mr. A. S. Fuller placed on our Exhibition tables, Dec. 16, samples of Fall Pippins, Northern Spy, Mountain Pippin, White Winter Pearmain, Peck's Pleasant, Swaar, Melon, McClellan, Winter Sweet, Belmont, Raules Jannet, Ladies Sweeting, Pryors Red, Rambo, Newtown Spitzenberg, Black Gilliflower, and Hays Winter Wine. They were fine specimens raised by Mr. Henry Avery of Burlington, Iowa, and compare very favorably with the same varieties grown at the East.

Buried Apples.—"Experimentor," writing from Wyoming Co., Pa., says: I have tried several plans for preserving apples but have never found any thing that pleases me better than the old fashioned Dutchess County way. Take perfectly sound apples, and bury them in a dry place in the garden and keep them dry. Put 5 to 10 bushels in a heap; cover with about 3 or 4 inches of straw, and then with about the same depth of earth, leaving a small hole at the top, and then cover the whole with a straw cap. Or better with a roof of boards or slabs. Apples treated in this manner retain their flavor, which is of the greatest importance. I have often, for late fall and early winter use, packed them in sawdust, wheat and oats chaff or wheat bran, dry sand, and in woolen blankets, etc., but none of these experiments have pleased me. They will not rot, but loose their fruity flavor.

White Doyenne Pear. — (E. Blosser, Middlesex Co., Conn.) This is the old Virgalieu, which, though generally discarded in New-England, is still a fine pear at the West. As a dwarf, it succeeds pretty well hereabouts.

Mixing Grapes.—Enquirer may plant as many kinds as he pleases on the same trellis. The intermixture of the pollen will not affect perceptibly the perfection, or flavor of the fruit. A very strong growing variety and gross feeder will so take the nourishment out of the soil, that thus its delicate neighbor will be nearly starved. The Concord will rob a Delaware if planted too close, and care is not taken to prevent the robbery.

Old Huckleberry Pastures as Vineyard Sites.—(J. C., Jr.)—The subject is too extensive for a Basket article. If the exposure is southeast or south, and the ground dry and not too leachy, and if you have plenty of manure and can apply 100 or 150 dollars' worth per acre, composted with twice its bulk of muck, and expend an equal sum in labor, your 2 or 3 acres of huckleberry pasture will make a good vineyard. Your selection of grapes is probably good; the Delaware should have a prominent place.

Aromatic Plants.—Trees of the Myrtle and Laurel families abound in China, Japan and Australia. These families of plants produce cloves, cajeput oil, gum kino, etc. (from myrtacious plants), camphor, cinnamon, cassia, benzoin, sassafras, etc., (from the Lauraceous plants). The Revue Horticole states that the atmosphere of Australia is so filled with the odors from these trees that fevers never exist, even in apparently the most malarious of swamps.

How Large a Garden.—"Ex City Subscriber" inquires "How much land will be needed for a kitchen garden for a family of five persons, with a liberal allowance for City cousins. For raising common Summer vegetables and small fruits a quarter of an acre would be ample. Half an acre could be profitably used in providing a supply of extra vegetables, with potatoes, etc., for Winter use.

Second Crop of Radishes.—The first week in Dec., George Haywood, of Brooklyn, placed upon our table crisp and tender radishes, from seed grown the same season. The first crop was sown early in May, and a few left to ripen seed, and this in turn was sown the last of September. They have been in eating condition for some weeks, and were of the scarlet turnip-shaped variety.

Old Asparagus Beds.—("Old Will.") Use plenty of manure in the Fall either as a top dressing or forked in, and salt well in the Spring.

Rhododendron—Correction.—In the article page 368, Dec. No., on transplanting the Rhododendron, by Mr. L. H. Johns, the color should have been printed *blush* white, instead of blueish white.

Raspberry Jam and Wine.—The Western Railroad Gazette states, that 12 to 15 tuns of raspberry jam, and from 300 to 400 gallons raspberry wine are annually made on Sugar Island, in the Sault St. Marie River, Mich. The berries are gathered by the Indians and sold to parties who manufacture the jam and wine, and send it to Chicago and other cities for a market.

Red Clover.—Branch 5 feet long received from S. Barfoot, Kent Co., C. W., a large growth but not equal to that referred to on page 329, last volume.

Rhyme—Poetry.—We are often favored with contributions of rhyme, and occasional bits of real poetry; but we can publish very little, if any, of such material. If there were no other objection, this one is fatal, viz.: the difficulty of properly translating English poetry into German, and *vice versa*—and since all articles go into each edition, we are obliged to omit poetry, as a general rule.

Snow Cream.—Mrs. M. A. H. Rowe, Columbia Co., N. Y., says the following is quite equal to ice cream. Beat thoroughly 1 egg with 1 cup white sugar, add 1 cup sweet cream, flavor to the taste, and stir in snow until it is quite stiff.

Beef and Pork Pickle—Correction.—The recipe at the foot of page 357 of our last issue was singularly misprinted. Mr. Aten who sent us the recipe pointed out the mistake. It should read—4 gallons water, 3 quarts salt, 1 pint molasses, 2 oz. saltpetre.

Recipe Wanted.—J. Henderson, Mifflin Co., Pa., inquires for directions for making the French national dish called "Pot-a-feu."

The Last First.—On the *last* page of the November number of one of our competitors for public favor and patronage we read: "The rapidly increasing circulation of this journal ..and its daily increasing popularity proves it to have become an established fact."—On the *first* page we read: "The publication of this paper will necessarily be discontinued with the next number....." Evidently the last written item is placed first.

A Valuable Opinion.—A recent *Maine Farmer*, (a journal devoted to news and agriculture,) says: "Those of our readers who want a *practical* and *reliable* monthly Agricultural Journal, issued in good form for binding, and containing numerous illustrations, we would advise to subscribe for the *American Agriculturist*...." This, coming as it does from one engaged in the same line of business, we consider as the highest praise. It also exhibits just the feeling we like to see and strive to cherish, which is above petty jealousy. The Maine Farmer, edited by Dr. Holmes, and published by Messrs. Homan & Badger, at Augusta, Me., ($2 00 a year,) is always one of our welcome exchanges.

"Manual of Agriculture, for the School, the Farm, and the Fireside." This book of 306 pages, prepared by Messrs. Geo. B. Emerson and Chas. L. Flint, and published by Messrs. Swan, Brewer & Tileston, (75c.) we have had on our table for several weeks, dipping into it now and then, and uncertain whether to give it a strong endorsement or not. It is one of the most thoroughly edited agricultural works published, and this will be the main obstacle to its general introduction. It is close reading—many thoughts packed in few words—and, while well adapted to older minds, will be rather strong mental food for children. A good teacher, experienced in agriculture, using this as a book of topics, would make it interesting. The style is that which may be used in stating unquestioned truths; we should have preferred more of illustrative argument. While approving of the doctrines of the book as a whole, there are some statements which we should call in question, had we time and room for an extended review.

Book on Breeding of Domestic Animals.—A valuable little work of 164 pages, by S. L. Goodale, Secretary of Maine Agricultural Society, in which is discussed the principles of breeding, or the physical laws involved in the reproduction and improvement of domestic animals. Correct knowledge on this subject is important as well as interesting to every one, and Mr. Goodale has furnished much valuable information, and many useful facts and hints, condensed and systematically arranged. (Price, 50 cents, postpaid.)

Two Rules for the Barn.—1. Feed regularly. All animals desire their food at stated intervals, and digest it better when fed at about the same hour daily. 2. Feed uniformly in amount. Do not give an excess one day, and too little another day. Let the fodder be proportioned in kind and amount to the animal; then let it be given systematically.—*Old Reader.*

Transferring Wild Bees.—"Bee Hunter," Providence, R. I., and others can either cut down the "bee-tree" and saw off the section containing the honey and set it near the stand; or they can place a common hive or box over an orifice made in one end of the section, and blow smoke into the other end to drive the bees from the combs. Then cut into the log and carefully remove the comb in as large pieces as possible, and fit them into the movable frames, or box of another hive, securing them with the help of cross sticks. Put in about 25 lbs. honey and brood comb for Winter use, and drive the bees into the hive, where they will make a contented home.

Destroying Moles.—Mr. Geo. Barclay of Dutchess Co., N. Y., puts sheets of tin across the new made mole tracks running them in so slanting as to throw the moles upon the surface in their attempt to work past them. Once on the surface they are easily killed by cats, terriers or boys. Two pieces of tin should be placed in each run, the upper edges approximating, as it is not known from which direction the animal will come.

James Warden, Baltimore Co., Md., kills moles by sinking glazed earthen pots beneath their runs. They cannot get out when once in. Post holes dug with a spade or bored with a post-hole auger is said to answer the same end.

Rusty Straw Unfit for Feeding.—R. McClure, in the Farmer and Gardener, gives an account of the injurious effects of rusty straw fed to horses, causing almost immediate sickness and death to a large number of animals belonging to a cavalry regiment. A decoction made from rusty straw given as an experiment caused loss of appetite, and sickness.

How to keep a Cow on Cape Cod.—(R. C., Jr.)—Pressed or "bundle" hay will probably cost you 1 cent per pound. A tun of hay ($20,) a tun of straw ($8,) and a ton of cornstalks ($5,) with what meal and roots she ought to eat, will keep your cow a year. In the Winter, give her cut feed,—half hay, with straw and stalks, wet up with 3 quarts corn meal (or 4 quarts ship-

stuff, or 2 quarts oil meal); of this about 1 bushel morning and evening, and ½ bushel of sugar beets or mangel-wurzels cut fine. This feed will cost 25 to 30 cents a day. In the Summer, give her pasturage, if you can, and feed her nice "slops" or swill, with dry hay, every night. Her manure will enable you to raise green feed (corn, etc.) for her the second year, and thus, each year she will cost you less. She should give you, on an average, 8 to 10 quarts of milk a day, the year round, worth 32 to 50 cents a day.—This is *one* way to do it. If this does not suit your circumstances, we may try again.

The effect of Cold on fattening Animals.—Dr. Playfair, in the Journal of the Royal Agricultural Society, in speaking of the necessity of warmth to fatten an animal readily, says that to keep up the animal heat, the oxygen of the air unites with that portion of the blood which goes to form fat and tissues, and converts it into carbonic acid, water, and ammonia. Where all the vitality of the animal is used to manufacture heat, there is no power left to increase the fat. If we would fatten animals in winter we must give them a summer temperature, by warming the shed and stables they occupy. The air that they breathe should be as pure as possible.

Another Prolific Sow.—Wm. P. Hood, Bristol Co., Mass., claims to have the most prolific sow yet noticed in the *Agriculturist*—a Berkshire sow, 2 years and 7 months old, that has given birth to 87 pigs in five litters. The largest litter contained 19, the smallest, 16 pigs. He says she transmits her prolificness to her offspring.

Kidney Worms in Hogs.—H. J. Huling, La Salle Co., Ill. In addition to the remedies given on page 220, (August No.) of last volume, administer spirits of turpentine in moderate doses, which, though harmless to the animal, is very destructive to worms. The disease often proves fatal, and prevention is much better than attempted cure.

The Army Worm.—Henry Griffing, Jasper Co., Ill., writes to the *American Agriculturist* that he doubts the correctness of Dr. Fitch's theory that the army worm originates in swamps, as published on page 331, Vol. XIX. He says it was very destructive in his neighborhood, and there are no swamps for several counties around. In that section the worms originated wholly in Timothy grass meadows.

Ventilation of Barns.—Unfortunately there are yet in our country few barns that need airing. Most are aired altogether too much for the comfort and thrift of the animals. But some barns are tightly built, the foundation of mason work, or thoroughly banked, the floors mostly air tight, and the sides closely boarded, or battened. In these provision for ventilation should be made. A ventilator, in the central part of the ridge, in the form of a small tower, is both ornamental and useful. Especially give horses pure air. They should never pass the night in an atmosphere polluted with exhalations arising from other animals. It is not only unpleasant to them, but detracts from their power to labor.

Ventilation of Stables.—"Iowa subscriber." Run a trunk of matched boards 3½ or 4 feet square up from somewhere near the middle over the cattle floor, passing one side of the threshing floor to the roof. It need not pass out, but must come close to a self-ventilator like the one figured on page 12. It is of course flush with the ceiling of the cattle floor. Swinging doors at one or two places in it are exceedingly convenient for throwing down hay, cut-feed, or straw, from the floor or loft above. These doors should swing from the tops so as always to remain shut when not in use. You will find such a ventilator sufficient, convenient, and cheap.

Condition Powders.—(J. D. Belcher.)—There are many kinds, good enough, perhaps; but the following we *know* to be good: Mix one part of salt with five parts of wood ashes, and stir it into the mess fed to your stock. We can not specify just how often, but give it whenever an animal seems to need it. This will sharpen the appetite, and keep stock in good, healthy condition. It will generally obviate the necessity of using any other medicine. The condition powders of the "horse-doctors" have usually antimony for their basis—often also contain *arsenic*, and other drugs, which it is never best to give, except for some real cause. Ginger, anise-seed, and other spicy or aromatic articles, are common ingredients to disguise the taste, and may be used for their tonic effect, often with profit, and without danger. *

"Dead Ground."—Henry C. McCoy, of Somerset Co., Md., writes: "I live in a sweet potato country, and our land often becomes "*dead*" in places of 20 feet square, but only when sweet potatoes are grown. The same spot will bring corn or almost any other kind of produce"...The remedy is, of course, a removal of the cause, which, as we do not comprehend, we can only say in general, secure a free circulation of air and freedom from water in the soil by draining thoroughly; see if you can find any external or other difference in the character of the soil. Try an applicaton of freshly-slacked lime at the rate of half a bushel to such a spot as you mention.

How Much Manure for Wheat?—The impression prevails in many quarters at the east, that the reason why we do not raise our own wheat is because it requires so much manure. "Triticum" inquires, How many two-horse cart-loads of stall manure are required to raise 25 bushels of wheat per acre? Wheat does not require more manure than Indian corn, but it does require a superior mechanical preparation of the soil. Those of our readers who systematically manure for wheat in whatever way will favor "Triticum," and doubtless many others by communicating their modes of culture for our columns. Of course, no rule can be given applicable to all soils. The idea is, we suppose, to ascertain how much of a given kind of manure will *pay* on a particular kind of soil.

Keeping Potatoes.—John C. Bishop, of Fond du Lac County, Wis., for some years has followed with great success the plan which he describes as follows: "They are dug about the middle of October, when the ground is dry. All the fine dirt falling into the bottom of the wagon is put in with the potatoes; as they sweat, the dry dirt absorbs the moisture. The bins are about two feet wide, raised from the cellar bottom six or eight inches. Their sides are set out from the wall by a 2x4 inch stick, and so between the bins. This prevents any external dampness from coming in contact with the potatoes; the air circulates around them, and I am convinced that potatoes so kept will be sounder and freer from disease than in any other way. A bin 14 feet long by 2 feet wide and 6 feet high, will hold over a hundred bushels. Such a bin will contain 220 feet of lumber."

How to Keep Winter Squashes.—

"Agin the chimbly crooknecks hung,
And in amongst 'em rusted
The old queen's-arm, that grandsir Young
Fetched hum from Concord, busted."

So runs the Yankee ballad of Zekel's courtship. Our frugal ancestry understood better than we, perhaps, how necessary a warm, dry place was to keep winter squashes. We may pattern from them and keep our Hubbards, crooknecks, and marrows out of damp cellars or freezing lofts.

Varnishing Cheeses.—A writer in the Dairy Farmer states that it is the practice of some dairymen to coat each cheese thinly with a varnish made from gum shellac dissolved in alcohol, when about to be shipped for market. It is said to improve the appearance of the cheese and to keep it from losing weight and gathering mold. We can not say as to the value of this recommendation.

To Keep Cranberries Fresh.—J. R. First see that *all* are sound and plump, then put them in tubs or large jars, fill the same with water, and keep in a cold cellar, without freezing.

Use of the Plow in Draining.—A writer in the N. H. Journal of Agriculture does most of the labor of ditching with a plow. He plows two furrows and throws out the earth. This is sufficiently wide for the drain. Two more furrows are in like manner plowed, and the earth thrown out by hand, when the plow is chained to the centre of a long, strong pole, laid across the drain, and two pair of oxen hitched on—one yoke on each side of the ditch. As the ditch grows deeper, the chain is lengthened, until 4 to 6 feet in depth is reached. This is very similar to the method described and illustrated in the *Agriculturist* for last October, page 297.

Board Drains.—D. M. Allen, of Cuyahoga Co., O., uses inch boards nailed together "like an eaves-trough," and laid open side down, for under-drains, and wishes to know if any of our readers have had experience with such drains, and can inform him in regard to their effectiveness, durability, etc.

Gas Lime.—We must refer inquirers to the number of the *Agriculturist* for March, 1861, (page 75, last volume,) for full information on this subject. It will generally pay to cart it several miles, but before it is used it must be thoroughly spread out to air, be broken up fine, and composted with muck or earth. Such a compost ought to lie six months before it is used; and after it is incorporated with the soil, two or three weeks should elapse before sowing grain or grass seed. We would not advise R. W. to apply it to his pear trees without trying an experiment or two, and watching the result.

Musical Instruction.—L. Winfield, Orange Co., N. Y., suggests that an elementary course of musical instruction be given in the Boys' and Girls' Department of the *Agriculturist*. It would not do to encroach upon the crowded space given to the children, with matter which can be so easily obtained in books; besides, we have little faith in musical instruction unaccompanied by the living teacher.

Ladies' Feet.—"Died of thin shoes"; so runs the epitaph. Thank Providence it is the fashion both for ladies and gentlemen now, to wear thick and sensible ones. So arguments against thin shoes are waste breath—and we can only say, follow the fashion.

Ventilation of Sleeping Rooms.—A correspondent of the *Agriculturist* writes: Sleeping rooms, in which there has been a fire during the day, should be aired before retiring. The importance of sleeping in a fine, bracing atmosphere can hardly be overstated. Even if there has been no fire during the day, it is well to open a door and a window or two, and to fill the room with entirely fresh atmosphere. Persons who will try this, need not take our word for the benefit. They will realize it in the greater elasticity and freshness with which they will arise in the morning.

Transferring Prints upon Wood, etc.—(C. C. R.)—This is done, we believe, by coating the surface with copal varnish, and before it is dry laying on the picture (wood-cuts transfer best) and smoothing it down upon the varnish with a paper folder. When the varnish is dry, moisten the paper and rub it off with the finger, and after carefully removing the paper, the print will be left; then give it another coat or two of varnish.

Lightning Rods.—(I. S.) Put up a ¾-inch iron rod, screw-jointed, running up one end of the barn, along the ridge-pole, having a single-pointed silver-tipped rod two or three feet high, at each end of the ridge-pole, and one extending equally high above the ventilator in the middle of the roof; have the end carried well down into earth which remains moist the year round.

Effect of Electrical Light on Vegetation.—Plants bleached by the exclusion of light, will grow green if exposed to the action of *electrical light* for a few days, in the same way as if acted upon by the solar rays. This is learned by recent experiments made in France, and noticed in the *Comptus Rendue*. It shows that even in these most delicate chemical effects, the light from the two sources is identical.

Do Rats Eat Grapes?—This inquiry recently mooted in the Gardener's Chronicle, (Eng.,) elicited many facts showing that these vermin do climb walls, trellises, and vines in houses to devour the fruit, in some cases taking it to their holes, where it was found.

A Hint to Stove Makers.—A writer in the Rural New-Yorker asks that stove manufacturers would leave off all the beading and figures and flowers and "tifficks" from their patterns. It would save much expense, and make it much less troublesome for housekeepers to black and polish the stoves. Some ornament may be allowed on parlor stoves, but nothing more than a simple plating to increase the heating surface should be used on a cooking stove.

Well Apparatus.—"Ex City Subscriber." The self dipping and dumping apparatus for raising water from wells, if rightly made, is superior to the old fashioned drum, or the wheel and two buckets.

Coal Oil for Moles.—"J. M. K." writes to the *American Agriculturist*, that he banished the moles which were very destructive in his grounds, by the use of coal oil. A small opening was made with the finger, at intervals along their track, from a tablespoonful to a gill of the liquid was poured in, and then covered to keep in the scent. This was repeated as often as a fresh track was made, and they soon left in disgust. He recommends the crude, unrefined oil, which can be had cheaply.

Coal Oil in War.—A corresponent of the Scientific American proposes that small steamers be fitted up with tanks of coal oil so arranged as to be thrown upon vessels with a steam pump. Then by setting fire to the stream the attacked vessel could be deluged with flame. This is a bright idea *if* it can be carried into practice. Camphene or spirits of turpentine would be preferable. fire will not readily follow a stream of common coal oil.

The War Rumors.

We are happy to assure our readers that, at this date (Oct. 20), there does not appear to be any serious ground for fearing a war with England. Most of the excitement thus far has been mainly due to those unscrupulous newspapers, here and abroad, which feed and fatten upon popular commotions. To these a battle, a catastrophe, a disaster, is food and sustenance. If any wrong has been done, it will doubtless be settled by diplomatic correspondence, and not by a resort to arms. There are too many ties of interest binding this country and England together, to permit their being easily sundered. The foreign need of our surplus breadstuffs would alone be a strong incentive to the maintenance of peaceful relations, and in this respect our farmers stand as arbitrators. We firmly believe that the good prospects, which we have for months past placed before our readers, are yet to continue, and that by another month we shall be able to report the entire subsidence of the recent commotions, which have been mainly produced by the sensation Press.

Years of Scarcity and Abundance.

The uncertainty of the weather and of the crops is an old subject, but it is one about which no agriculturist can feel indifferent. Changeable as the seasons are, there is yet reason to believe that, amid much apparent uncertainty, law and order do still prevail. At least, this much may be held, that in the long run, sunshine will succeed storm, and abundance follow scarcity. There may be a year or two of poor crops, but these will soon be balanced by as many of good crops. We cannot tell how large a period the cycle may embrace, but we may be confident that a cycle there will be.

The French are more given to observing and theorizing on these subjects, than we busy Yankees are. Some time ago, M. Becquerel read a paper before the Academy of Sciences, in Paris, on the culture of wheat in France, in which he presented some statistics worth looking at. His facts show that "there is a periodicity in the recurrence of good and bad harvests; that five and six years of abundance and five or six years of scarcity follow each other pretty regularly." He quotes from Count Hugo the following table, extending 33 years:

From the year 1816 to 1821 was a period of scarcity.
From the year 1822 to 1827 was a period of abundance.
From the year 1828 to 1832 was a period of scarcity.
From the year 1833 to 1837 was a period of abundance.
From the year 1838 to 1842 was a mixed period.
From the year 1843 to 1847 was a period of scarcity.
From the year 1848 to 1852 was a period of abundance.

Now, let these facts be taken for what they are worth. They do seem to indicate a certain order and regularity amid apparent disorder. Perhaps, if we should make careful observations, we should find a similar law prevailing here. The cycle may extend three years, or five, or some other period, but undoubtedly there is some regular balancing of the seasons.

An ingenious Scotch writer thinks he has found a natural cause to explain this law. He refers to Schwabe, a German astronomer, who avers that the spots on the sun maintain a certain periodicity of about five and six years; then to Gautier, a Swiss savan, who affirms that this periodicity tallies with that of the grain crops. And he reasons that, as the light and heat of the sun are essential to the successful growth of vegetation, it is not unscientific to suppose that the diminution of them should diminish the crops, and their increase augment them.

We are not prepared as yet, to give much weight to this theory; but it will do no harm if farmers remember it as a matter for observation.

The Millers Not Always at Fault.

A correspondent, who is a miller by trade, sends to the *American Agriculturist* a somewhat lengthy communication, from which we condense the following suggestions: The mechanical skill of the miller is often called in question by housewives, when the bread does not look inviting, and his honesty in the matter of taking toll is also sometimes doubted by the farmer, when he is not at fault. Frequently, wheat which has been poorly screened from the chess, "cockle," and other foul stuff, is taken to be ground; then, if the miller grinds it just as received, without re-screening, a poor article of flour is turned out. If, however, from a desire to maintain his reputation for making good flour, he takes pains to remove the foul stuff, then the flour from the grist falls short in weight, and he is suspected of cheating in the toll. Much grain is injured by being sprouted, and in some sections it is threshed on the ground, and thus mixed with gravel or dirt, which must injure the quality of the flour. If good grain, properly screened, be taken to mill, our correspondent thinks less fault will be found with the miller, and this is undoubtedly true.

Another difficulty stated to be in the way of the miller, is the practice of having corn ground together with the cob, particularly where all the runs of stones are driven by a single water wheel. The corn, being heavier, will nearly all pass between the stones first, and when the cobs, which are more easily ground, begin to run, the mill starts off in double quick time. To remedy this, the miller gives a little more feed to the stone, and unless constantly watched, which is often impracticable, the stone is crowded, and the mill runs slowly again: thus an unsteady motion is given, and good flour can not be made on the other stones which are affected by this continued change. One remedy for this latter difficulty would be, to grind such feed only on certain days, and then have no other grain passing through the stones at the same time.

Another Husking Pin.

To the Editor of the American Agriculturist.

I send you a rude drawing of a husking pin which I have used these twelve years, and think it superior to the wooden ones of which you made a notice. It is of ¾-inch iron, made to fit the hand, the ring going round the little finger, and the point bearing against the thumb. A strap of leather, an inch wide, through the ends of which the pin passes, goes over the two middle fingers. Any common blacksmith can make the implement. ELI C. JONES.

Blair Co., Pa.

Agricultural Dentistry.

A subscriber writes to the *Agriculturist:* I like the ideas of a correspondent of the Dairy Farmer, who suggests that one operation be made of taking out the tree, body, roots, and all. For this purpose he recommends to use a stout rope eighty or more feet long, with a pully; the rope to be fastened near the top of the tree, the pulley anchored to an adjoining stump, or to a loaded stone boat, and horse or ox power applied. Small trees could thus be *extracted* at once; for large ones it would be necessary to cut some of the main roots near the surface. The tree itself would act as a lever to raise its own roots from the ground. In localities where wood is valuable, the saving of fuel in the stumps and roots brought up, would form quite an item, besides the additional land cleared at once. ROOT.

[The above we find in type, but do not attach great importance to the suggestion, from the fact that it would be found difficult to fasten the rope far enough up the trunk to obtain a sufficient leverage to pull over a tree with its green roots firmly imbedded in a strong soil. The use of a long light ladder might be found practicable. Indeed, we have seen a few trees thus removed, but they were those which had been girdled for two or three years, and most of the roots were partially decayed. In clearing oak land at the West, a somewhat common practice has been to clear out the under-brush and small trees, then girdle the larger ones, and sow a crop of wheat, following with corn. After two or three years a heavy Autumn wind blows over most of the trees, and they are cut or burned into short pieces, and logged up and burned. If any one has been successful in pulling over *green* trees with ropes, we shall be glad to hear from him in the *Agriculturist*.—O. J.]

For the American Agriculturist.

Work Bulls in the Yoke.

Idlers are dangerous members of society, and bulls are no exception. Their vicious propensities when left unemployed, make them the most dreaded animals on the farm. But however gentle they may remain, it is no small tax to support these gentlemen of leisure among farm stock. Why should they not be taught to bear the yoke and divide the labor with their less favored brethren? They have probably been left generally unused for such purposes, because of the supposed difficulty of managing them; but a well-broken, well-worked bull is a different character from the pampered sultan left to his own way. If taken young, and properly treated, they need be little more difficult to manage than oxen. The writer knew a whimsical Doctor in this State, who trained a two-year old bull to draw his sulky, and he attracted great attention, galloping about the country with this singular "turn-out." The Boston Cultivator gives the case of an imported Ayrshire bull, owned by Mr. E. R. Andrews, of West Roxbury, Mass., which is broken to single harness, and worked daily before a cart. He can pull more than any horse upon the farm. He is very tractable, easily managed, and quick in his action, walking faster than the common gait of a horse. He is guided with reins attached to a ring in his nose. If judiciously kept, and not over-worked at the time of special service, such treatment will be rather a benefit than an injury, giving greater vigor and hardiness of constitution. Let these sinecurists pay their way.

REMARKS.—The above is perhaps partly true, but we can hardly endorse the advice to put valuable breeding animals to hard work in the yoke—certainly not to work them sufficiently to make them entirely docile. Doubtless, bulls can be kept somewhat gentle by constant handling from "infancy," but to work them enough to prevent the necessity of using a ring or headrope would lessen their breeding qualities.—ED.]

"The Straw-yard."

A fine frosty morning in Merry England at Christmas time. The first considerable fall of snow lies lightly on the thatch, the wind has not drifted it, the sun has not softened it, and even in the straw-yard it is as yet unsoiled and beautiful. The haze, which gave such a depth and softness to the atmosphere before the storm has gone, and the sharp, clear outlines of distant objects tell us, even if we look out from the window, turning our backs upon the blazing and crackling hearth, of the exhilarating tonic of the purified air. The horses fill their capacious lungs with joy, and are as ready for a ten-mile drive as for a caper on the meadow, or even a pull at the hay-rack. Let us enjoy the scene with Mr. Herring, one of the most famous of the animal painters of England, whose horses on canvass bring prices which many a farmer would rejoice to get for his four-year-olds. Every animated thing is out and enjoying it too. Black Prince, a fine noble fellow, looks monarch of all he surveys; the dapple pony rejoices in the realization that on Christmas-day morning he is not, as usual, bounding away over the moor to the market. So we may give them each a character, and cogitations appropriate to their looks and circumstances. The experience of the feathery snow is evidently a new sensation to the saucy little Berkshires under Sir Roger's heels. Bold Chanticleer, ready to dispute with any claimant the right to rule the yard as well as the roost, struts and cackles with an offended dignity, as if it had all been done without his counsel or consent. Well, Mr. Herring, we are much obliged for the picture, and hope the readers of the *Agriculturist* will enjoy it as much as we.

THE STRAW-YARD AT CHRISTMAS—From a Sketch by Herring.
(Engraved for the American Agriculturist.)

Fowl Management.

At this season, poultry need looking after, if we would keep them healthy, and in good laying condition. If they are confined, the hen-house should be light, warm, airy and dry. Any thing but wet quarters for hens; and the more sunshine the better. Keep their apartments clean. Be regular in the times of feeding. Variety in diet should also be sought after. Corn is always acceptable, and so are barley, refuse wheat, oats, boiled potatoes, and the like. An occasional picking of *fresh* meat is needed for laying hens; it is a partial substitute for the worms and insects which they get in the Summer. Keep clear of salt meat, however; this is often hurtful, and sometimes fatal. Give them plenty of gravel, old plaster, or broken oyster shells, or pounded bones, and supply fresh water to them regularly.

Whoever has an eye to the improvement of his flock by breeding, should now take the matter in hand; a single year will accomplish a great deal. Examine the fowls from day to day, while they are feeding, and having fixed upon the best roosters and the best hens, put the others in the pot, as fast as wanted. Select the hens for their healthy, vigorous constitutions, large, well-formed bodies, bright eyes, and good combs. "Early maturity," says a savan in hendom, "and good laying qualities must not be forgotten. The form is a good indication of the former, and also, to a certain extent, of the latter. If early maturity, beauty of form and refinement are carried too far, the tendency to lay eggs is supposed to be diminished." Decapitate restless, quarrelsome hens. Roosters should be chosen for their vigor, upright and valiant bearing, plump and strong bodies and legs. The relative importance of the color of the legs, is in dispute. Some stand up for white or bluish legs, averring that they indicate delicacy of flesh; while others battle for yellow legs, claiming that they bear up the richest and most highly flavored meat. As for ourselves, we refuse to be a party in this strife, but if our table is supplied with a plenty of either color, we shall ever be profoundly thankful!

A Protest against Cramming Poultry.

A correspondent of the *Agriculturist* writes thus: The other day I read an article in a city paper, describing the method by which French fowl raisers *are said* to make an ordinary chicken weigh seven or *eight* pounds. It seemed so absurd I thought nothing of it, until visiting an old farmer in my vicinity, I found him forcing flesh upon turkeys for the holidays, in nearly a similar manner, viz.: by stuffing dough down their unwilling throats until their crops would hold no more, the birds being in close quarters, without possibility of exercise. The French go a little further, excluding light as well as liberty, visiting the captives three times a day, cramming them with pellets of dough and a little lard—in quantities which nothing could have induced them to eat voluntarily. The treatment is continued a month or more, and they occasionally die under it. The description naively adds, 'we should think so'! It is not pleasant to think the unctuous plumptitude of these fabulously fat chickens is bloat and disease—there is no other right name for it. There is only one right way to rear animals we design for food, and that the great majority pursue. They eat and drink, and come and go in the pure light and air at will. Every other course is *against nature*, and we are sure no sensible farmer will try the so-called "French" method of adding flesh to his poultry at the expense of the laws which alone can make them really fit for food. Common Sense.

The Family of the Grasses.

GEOGRAPHICAL DISTRIBUTION OF GRAINS.

If any thing on earth exhibits the ineffable wisdom and beneficence of the Creator, it certainly is this family of plants. No other family comprises so many genera, species, and individuals, and no others are so extensively distributed over the habitable globe. We see that the most useful plants are by far the most numerous; and the most widely diffused of these are embraced in the Grass Family, (*Gramineæ.*) The most useful species of this family are: *Wheat, Rye, Barley, Rice, Maize,* or *Indian Corn, Oats, Sugar-Cane, Sorghum,* and *Imphee.* From these plants, as is well known, our bread and sugar are mainly derived. To these genera and species may be added those kinds of grasses on which the whole family of ruminant animals principally subsist, viz: Timothy-grass (*phleum pratense,*) Blue-grass (*poa compressa,*) Red-top (*agrostis vulgaris,*) Panic-grass (*panicum nitidum,*) Millet (*milium effusum,*) Fescue-grass (*festuca pratensis* and *elatior,*) Broom-grass (*bromus pubescens,*) Beard-grass (*andropogon nutans,*) and numerous other varieties of the genera above named, as well as many other genera. The plants are herbaceous, with few exceptions, as the *Bamboo,* which has the hardness of wood. Botanists have enumerated more than 300 species of the grasses in the United States, notwithstanding which, those varieties commonly cultivated here for fodder, are of European origin.

Within the northern polar circle, agriculture is found only in a few places. In Siberia grain reaches at the utmost only to 60°, in the eastern parts scarcely to 55°, and in Kamschatka there is no agriculture even in the southern parts about 51°. The polar limit of agriculture on the northwest coast of America appears to be somewhat higher; for, in the more southern Russian possessions, (57° to 58°,) barley and rye come to maturity. On the east coast of America it is scarcely above 50° to 52°. Only in Europe, namely, in Lapland, does the polar limit reach an unusually high latitude, (70°.) Beyond this, dried fish, and here and there a few potatoes supply the place of grain. The grains which extend farthest to the north, in Europe, are barley and oats. These, which in milder climates are not used for bread, afford to the inhabitants of Norway and Sweden, of a part of Siberia and Scotland, their chief vegetable nourishment. Rye and spelt are the next which become associated with these. Rye is the prevailing grain in a great part of the North Temperate zone, namely, in the south of Sweden, and Norway, Denmark, and in all the lands bordering on the Baltic, the north of Germany, part of northern Russia in Europe, and part of Siberia. In the latter, another very nutritious grain, buckwheat, (*polygonum fagopyrum*) is frequently cultivated. In the zone where rye prevails, wheat is also generally to be found; barley being here chiefly cultivated for beer, and oats supplying food for horses. To these there follows a zone in Europe and western Asia, where rye disappears and wheat almost exclusively furnishes bread. The middle or the south of France, England, part of Scotland, a part of Germany, Hungary, the Crimea and Caucasus, as also the middle lands of Asia, where agriculture is followed, belong to this zone. Here the vine is also found; wine supplants the use of beer, and barley is consequently less raised.

Next comes a district where wheat still abounds, but no longer exclusively furnishes bread; rice and maize, or Indian corn, becoming frequent. To this zone belong Portugal, Spain, part of France on the Mediterranean, Italy, and Greece; also the countries of the East: Persia, Northern India, Arabia, Egypt, Nubia, Barbary, and the Canary Islands; in these latter countries, however, the culture of Indian corn or rice towards the south, is always more considerable, and in some of them, several kinds of sorghum (*Doura*), and *Poa Abyssinica*, come to be added. In both these regions of wheat, rye only occurs at considerable elevations; oats, however, more seldom, and they at last entirely disappear; barley affording food for horses and mules.

In the eastern parts of the temperate zone of the Old Continent, in China and Japan, our northern kinds of grain are very unfrequent, and rice is found to predominate. The cause of this difference between the east and the west of the Old Continent, appears to be in the manners and peculiarities of the people. In North America, wheat and rye grow as in Europe, but more sparingly. Indian corn is more raised in the Western than in the Old Continent, and rice which is cultivated to considerable extent in South Carolina, Georgia, and in the Gulf States.

In the torrid zone, Indian corn predominates in America, rice in Asia, and both these grains in nearly equal quantity in Africa. The cause of this distribution is, perhaps, historical; for Asia is the native country of rice, and Indian corn is indigenous to America, and probably also to Africa and Asia. It is true that most writers who have mentioned this plant have maintained that America is its native region; but no botanist has ever found it here growing wild; but the Landers found it extensively cultivated all along the river Niger in Africa 500 to 1500 miles from the ocean.

N. P.

Hudson, Ohio.

For the American Agriculturist.

Benefits of Rotation.

A correspondent of the Country Gentleman from Wisconsin thinks rotation is unnecessary, from the fact that he has raised potatoes with improving crops each year, for four years successively. This is one of the cases where "a little learning is a dangerous thing." There is no principle better established in modern husbandry, than the necessity of rotation to secure maximum crops. The eminent success of British farming rests upon this practice. It is quite possible that in a virgin soil, the same crop may be grown with success for years in succession. But this does not invalidate the principle. Cultivation soon uses up a virgin soil (except in bottom lands,) and nothing but rotation can keep up their fertility during a long period of time.

On a piece of reclaimed land where we got 220 bushels of field beets in 1860, we this year gathered only 127 bushels. The land had manure enough and careful tillage. The result we have no doubt was mainly owing to a repetition of the same crop. On a piece of garden soil where we gathered thirty eight bushels of carrots in 1860, we raised this year less than twenty bushels. The soil was rich with manure, but had been in carrots four years. On another patch where potatoes had been grown with carrots as a succession crop, for only two years, there was less than half a crop. On another piece of meadow that had been in grass for a generation, potatoes were planted five years in succession. They did very well for three years. The yield the last season was not more than half a crop, though manured broadcast and in the hill. These facts show pretty conclusively that the soil demands a rotation. It may be doubted whether the exception, usually made in favor of the onion crop, disproves the rule. It is well known that wood ashes are a favorite fertilizer for this crop, and that the lime and potash in them are alkalies, and prepare plant food very rapidly for the use of the crop. But even with this aid, the maggot and other diseases are making their appearance in the onion districts, and very much diminishing the profits. May not the trouble be owing in part to the practice of compelling the onion to live upon its own decay, as it must where the same land is used for this crop for a long course of years.

In virgin soils, or those that have lain in grass for a long period, it may be economical to repeat a crop, but as a rule there should be a change of crops every year. Whatever may be the philosophy of the fact, it will hardly be disputed that all crops do better in rotation. Plants seem as fond of a change of food as animals.

CONNECTICUT.

An Englishman on Peat.

In a recent number of a leading British magazine, the Editor grows eloquent over his "newly discovered" uses of peat. He speaks of what the majority of American farmers have long known, as follows:—"Dry peat has been discovered by an eminent agricultural professor of chemistry as a good deodorizer of offensive putrid substances; it possesses the wonderful disinfecting properties of charcoal; and by mixing with common night soil in about equal proportions, makes a valuable manure, not inferior in its results to the best South American Guano." He says that when thus prepared, it may be used as a top-dressing, or be drilled, or dropped in with seed, at the rate of 700 to 800 pounds per acre, and may be used for every known crop, for the garden and for the lawn. Pulverize peat and strew it over the floors of stables, piggeries, or cow-houses, with a thin covering of straw over it, to keep the animals clean, and it will disinfect the buildings and absorb all the liquids which would otherwise waste.

Wherever there is a small nuisance of any kind, a cess-pool, sewer, water-closet, vexatious kitchen drain, etc., treat the same with peat. Let every cottager possess himself of a barrel or two of this article, and his little domain will thrive like a green bay-tree. "From the palace to the hovel, let this grand renovator and purifier be," etc., etc. Our trans-Atlantic cotemporary goes on in a very grandiloquent style.

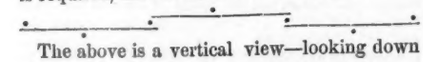
Fence for Wet Lands.

To the Editor of the American Agriculturist.

The *best* fence which I know of for land that "heaves," is made in panels four boards high, the boards nailed with *twelve-penny clinch* nails, to three strips of white pine plank (1¼ or 1½ inches thick. The panels are held up against the posts by binding with number 8 *annealed* wire. No middle post is required. If hemlock boards are used, a brace and bit are necessary to bore through the boards at the ends, to prevent splitting. The posts being sharpened when set, they can be driven back if they heave, without injury to the fence. The above is from an experience of nine years with different kinds of panel fence. It is easily and quickly made, is cheap, not patented, and is the *best* portable fence I have ever seen, if I did invent it myself.

I have also tried all sorts of ways for nailing

boards and plank to fence-posts, and have become satisfied that where service and not show is required, the *best* manner is as follows:



The above is a vertical view—looking down at the top of the fence. R. M. HASBROUCK.

Saratoga Co., N. Y.

Horses Injured by Hungarian Grass.

As has been previously stated in the *Agriculturist*, from all the evidence received, there appears to be no peculiar property in millet or Hungarian grass which makes it hurtful to horses, or other stock; but injudicious feeding of the ripened seed with the stalk may be injurious. The following item from the Prairie Farmer refers to this matter. A gentleman having grown and fed considerable of this grass to his stock last season, several of his horses became stiffened and almost useless. One, a fine mare, died. To ascertain what ailed her, he opened and examined her thoroughly, and found in her stomach a ball of Hungarian grass seed, weighing from seven to eight pounds, so hard as to be broken with difficulty. Acting on this discovery, he gave his other horses a dose of castor oil, and very soon, masses of seed were passed from them, apparently parts of the balls described, some pieces as large as hens' eggs.

If this be the difficulty, it may be prevented by steaming the grass and seed before feeding. As is well known, grain of any kind reaching the stomach unbroken by the teeth, is not easily digested, and whole kernels of corn or oats may often be found in the excrements of animals, as the poultry testify by assiduously scratching over the manure heap. Millet seed of every variety is so small as to be masticated with difficulty, and most of it will enter the stomach unbroken. Thorough cooking by steam will swell and soften the kernels, and prepare the grain to be readily acted upon by the gastric juice in the stomach of the animal. *

Diseases from Ammonia in Stables.

Nothing is more common than diseases among cattle, especially horses, arising from foul stables. Horses are more troubled with it than cows, probably from the fact that their dung is generally richer and undergoes a more rapid fermentation, throwing out ammonia in large quantities. In a close stable the gas is so strong that the eyes are painfully affected with it. This is an alkali, and is classed among the most powerful stimulants, the constant respiration of which, predisposes to affections of the lungs. The strength of the gas may be judged from the odor that arises from a common hartshorn smelling bottle. In many stables no provision whatever is made to guard the animals against this subtle poison. The floor is always saturated with urine, and the pungent odor of this gas is always present.

There are many cheap experiments within the reach of most farmers to prevent this nuisance, and to save the ammonia for the manure heap. As all the animals are now coming to the stables, particular attention should be paid to this item of economy. Common ground plaster is a good absorbent, and a few quarts sprinkled daily in the manure gutters, will keep them sweet and clean. Sawdust from the shingle and saw mill will make good bedding, and if renewed often enough, will retain all the ammonia. In most mills in the country, this article accumulates, and has to be thrown into the stream, to get rid of it. It may be turned to profitable account for bedding.

Some farmers living near tan works, use the spent tan bark for this purpose. If kept under cover and used in the dry state, it makes a very valuable manure. Shore farmers have an unfailing resource in sea weed, particularly the eel grass. If this is spread and dried upon the shore it makes a good bed, and has great power of absorbing gas. Better still is dry muck and peat kept housed for the purpose. A half cord of this under a horse with a little changing where the water falls, will keep a stable sweet for two weeks. This is within reach of most farmers, and is, perhaps, the cheapest and best method of enlarging the compost heap. Leaves gathered from the forest, or straw, make a suitable covering for the muck at night, and keep the animals clean. As ammonia is the most valuable constituent of the manure heap, it ought to be a point of honor with every cultivator not to have an ounce wasted. It is the very life of his business—good for the eyes of potatoes, beans and other plants, but very bad for the eyes of horses and cattle.

For the American Agriculturist.

Saddle Horses.

The present war times have given new value to saddle horses. They are wanted for military service, and then the prevailing martial spirit has caused our young men and maidens at home to learn and practice the noble and robust accomplishment of riding on horseback. Luxuriously cushioned and closely curtained carriages may do for the feeble and the effeminate; but to the young and strong, give the saddle and the bounding steed.

Aye, and more than that: the saddle is just the place for the feeble who wish to become strong, and who have the courage and perseverance to take this daily regimen. We speak what we have tried and do know, that for a pulmonary complaint, nothing is better than daily exercise on horseback. If the weather is cold, put on more clothes; if wet, then throw on a rubber overcoat; but sally forth once a day, and Dobbin will bring you home in better health and spirits than when you went away.

There is a great difference in horses. Some were born for the saddle, and are easily trained to it. Some are naturally awkward, long-paced, high stepping, making it a penance to ride them. Others again can be broken to the saddle only by careful training. With the latter, the work should be begun early. Care should be taken that a young horse get no fright by throwing on the saddle rudely, or by the rider's mode of mounting and dismounting. Vex him not by unnecessary roughness in putting the bits into his mouth. Let him not get the habit of starting suddenly at pokerish objects by the roadside; for a saddle horse, this is one of the worst of faults. And when he does get frightened, do not try to whip him out of his alarm; he will be all the more terrified next time.

Some horses have a good deal of style and carriage by nature; with others, it must come chiefly from training. Keep your horse from throwing his head very high, or dropping it very low. A little curve of the neck is very graceful. An ordinary snaffle-bit with a martingal enables one to manage the head successfully. In certain cases, it will not; and then the curb bridle must be resorted to. An occasional use of this will bring down a lofty head and an outstretching nose. And then, contradictory as it may seem, the same bridle skillfully used, will bring up a doggishly low head. But such a bit should not be used constantly, or it will lose its value.

The gait of a saddle horse is somewhat a question of taste, but a slow, easy gallop is, on the whole, the most popular. The natural gait of a horse (trot, pace, or gallop,) will be the easiest for him and his rider. A little management, such as tightening or loosening the rein, a motion of the legs or of the person, a slight whistle or chirrup, will soon be understood by the horse, and cause him to take the gait or speed desired. EQUESTRIAN.

A Harnessing Arrangement.

A correspondent of the Country Gentleman describes the following method of harnessing and unharnessing a horse to a single wagon: "In the first place, my harness is made with the collar open at the bottom, and no buckle, but the hames are fastened to the collar, and there is one buckle to fasten them both. The tugs and hold-back straps are not unhitched; the lines lie over the dash, where they will not get under the horse's feet; they may be unbuckled from the headstall, or remain with it, and all hang up together. I have a wooden hook, like an ox-bow, with half the length of one side cut off, so as to hook under the back saddle, collar, and headstall. A cord is attached to the long end of the hook, and put up over a pulley, and through another pulley, and down to about three feet from one side of the horse. Unbuckle the belly-bands and the hame-straps, put under the hook, pull all up, and make the cord fast to a small hook at the side of the carriage house. A horse will soon learn to place himself back into the breeching, when the harness and shafts are let down, three or four buckles are fastened, and he is harnessed."

Breaking Heifers for Milking.

This is often made quite a serious affair, in which kicks and bruises are freely interchanged between the frightened brute and the irritated master. Many an otherwise excellent milker is spoiled for life by harsh treatment. A heifer, if well broken to the milk pail, is thereby made worth at least twenty per cent more—an increase which will pay for much painstaking. Rarey's reasoning respecting horses applies equally to other animals. They only resist when injury is apprehended, and their natural instinct suggests danger whenever any unusual treatment occurs. Every one has noticed how shy a creature is in entering strange enclosures, or at sight of new objects. The handling of a heifer's bag is to her a very unusual proceeding, and, in addition, the teats are often tender, and the bag caked and inflamed so as to be painful under even a gentle touch. Training for milking should commence long before calving. First teach the animal to welcome your coming by little presents of an apple, a handful of corn, or salt, or other delicacy. She will soon readily permit the hand to be laid upon her back and enjoy the gentle rubbing and scratching which may be given. Extend the handling to different parts of the body, until she will not flinch from grasping her teats, and the work may be soon accomplished without even a harsh word. This will be a good lesson for the boys to practice the present month, and teach *them* patience and kindness, in addition to the good effects upon the animals.

[PRIZE ARTICLE.*]

Winter Feeding and Care of Animals.

BY "RURICOLIST," OF ONTARIO COUNTY, N. Y.

"'Tis then the time from hoarding cribs to feed
The ox laborious, and the noble steed;
'Tis then the time to tend the bleating fold,
To strew with litter and to fence from cold."
DAVID HUMPHREYS.

I consider it self-evident that to winter stock *properly* and profitably, we must have at hand the *means* of doing so, viz.: the proper quantity and kinds of fodder, and convenient buildings. It would, however, be out of place here to enter on the subject of farm buildings, as there is no telling how far it might lead us.

The first point to be secured is the *health* of the animals, and for this sufficient room and good ventilation are indispensable. Warmth is less important to stock than ventilation, and as yet the great mass of our farmers are not awake to the importance of ventilating even their own *houses*. All barns and stables need *ventilators*, as outlets for the foul air, and the same should by all means be provided for every building which is used for live stock of any kind. Where ventilators from stables pass

Fig. 1—BARN VENTILATOR.

through the hay-mow above, they must be made tight, or else the foul air instead of escaping harmlessly will contaminate the hay. Farmers are often at a loss to conjecture why their animals will not touch fodder placed before them. Animals are unwilling to eat fodder which others have breathed upon—what must then their aversion be to that which contains the essence of all the air ejected from the lungs of ten, twenty, or thirty animals.

[Ventilators need protection from the weather and uninterrupted escape for the air. Fig. 1 shows a common and good form. Fig. 2 is Emerson's ventilating cap—a form for the end of a ventilating trunk carried out above the roof; it is made of "galvanized" or zinc-coated sheet-iron, and creates, when there is a little wind, a strong draft.]

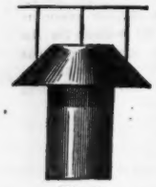


Fig 2.

Next in importance to ventilation is *room*. A false idea of economy prompts many to crowd their animals into half of the room they require. It is far better to err the other way. There are many days during the winter when the weather will not warrant our turning stock out any longer than may be necessary to water them and to clean out their stables; and when we not only deprive them of exercise, but cramp them up in stables so that they have hardly a chance to move either way, we can not expect to meet with success in winter feeding.

Warmth is desirable in farm buildings, provided its introduction in no manner interferes with the perfect ventilation of the same. It makes but little matter how tight you make the floor, sides and roof of your stable, provided there be an ample supply of fresh air and a proper outlet for the foul. The animal heat, from the stock, will make a warm stable if the cold blasts are shut out by matched siding or battens, and the ice and snow kept from intruding under the eaves and through the cracks in the roof. Paint must be used carefully around buildings—cases of death from licking fresh paint are by no means rare. Farm buildings should be convenient, and although roomy, they must be compact or else many steps will be taken that might otherwise be avoided. Have your hay, meal and roots close at hand so as not to carry them far. Not only is time wasted in so doing, but in the course of a season a considerable amount of hay and most of the heads and seed, which the cattle like best, are lost. I regard the straw and root-cutters indispensable tools to every economical farmer. As for root-cutters I have never seen an American-made one that did the work to suit me, but I know of one imported from England which is all that can be desired except in price ($50).

NEAT CATTLE.

In speaking of the wintering of cattle, we of course refer to their treatment from the moment they are put up in the stable in the Fall until they are turned out to pasture in the Spring. Pasture generally grows short for cattle, especially milch cows and cattle which it is intended to fatten during the Winter, as soon as September. When this occurs, a little hay and grain should be fed, even before it becomes necessary to confine the stock to the stall, and as pasture gets more and more scanty the feed should be increased by degrees, until it is time to shut them up. In spring do not turn out early; they will injure the growing grass, while it will be insufficient for their wants and yet destroy their relish for hay.

We have then to consider the treatment of milch cows, breeding cows, fatting cattle, oxen and calves, from September to May—seven long months. What shall we feed them, and how shall we feed them, in order to promote their growth and health, and to atone for the loss of free exercise and fresh vegetable juices which they have during the summer?—A question which, well pondered, will dispel the delusion that it does not pay to winter cattle.

The first fall-feed cattle usually get, is pumpkins fed in the yard, and eaten, seeds and all. This is all wrong—pumpkin seeds are diuretic, that is, promote a secretion of urine, in fact, a regular medicine and therefore injurious to a healthy animal. The tendency in milch cows is to reduce the secretion of milk, and the unreflecting farmer will be surprised to find his cows suddenly "drying up." Cattle which have access to pumpkins when at pasture will neglect the grass and will inevitably grow poor as the pumpkin does not contain the requisite amount of nourishment to supply their wants. I therefore hold that pumpkins, if fed at all, should have all their seeds removed and should then be passed through the root cutter and fed with hay, straw, or stalks and grain, as the case may be. Any falling off in flesh in the Fall is to be studiously avoided, and if allowed to run down in the Fall or Winter it will take a long time for them to recover. Remember the adage, "cattle well wintered are half summered." As soon as cattle are put in winter quarters they require the constant attention of some one man.

Racks provided for yard feeding, although it is not customary, should have *tight floors* so that cut hay, straw, chaff, pumpkins or roots may be fed without waste. It is often necessary to move the racks during the Winter in order to spread the manure evenly over the yards and to keep them at the proper level; and owing to the difficulty of finding clean places to set them down, the floored racks are of great advantage as the food placed in them is not rendered disagreeable to the animals by the gases exhaling from the manure beneath. Fig. 3 is a plan of the style of rack I have adopted and which I consider the best of the many styles in use. The corner posts should be 4 inches square and the braces stout inch boards—the boards should be nailed on the inside and with wrought nails clinched so that in throwing their heads around, as cattle are apt to do when eating, they may not force any of the boards off as they would be likely to were they nailed on the outside. Pieces of two inch plank nailed across the ends support the floor which is of inch boards.

The general rule is to give the poorest feed first and so keep gradually improving—and it is a good rule so far as it goes; but to take cattle up in the Fall and give them nothing but coarse dry straw is absolutely cruel. As for young growing stock they should have the best fodder the farm produces all the year round. Remember that the

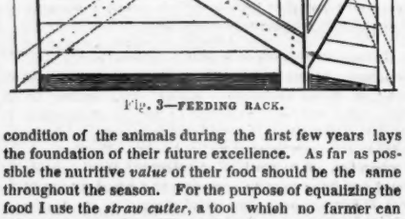


Fig. 3—FEEDING RACK.

condition of the animals during the first few years lays the foundation of their future excellence. As far as possible the nutritive *value* of their food should be the same throughout the season. For the purpose of equalizing the food I use the *straw cutter*, a tool which no farmer can afford to be without. Wheat straw contains 13¾ per cent of matter available for food and 86¼ per cent of woody fiber and ash; if fed alone therefore it requires a large amount to furnish the requisite nourishment. But if cut up and mixed with hay, roots and meal, it will not only go to nourish the animal, but the very woody fiber, before useless, will counteract the effects of the otherwise too concentrated food. As, however, this kind of feeding can not be managed well unless each animal be fed according to its age, condition, etc., it becomes necessary to provide separate mangers for each. Will our farmers never learn the *profits* of stabling cattle? Except here and there one, they leave their cattle in open yards, or worse yet, in open fields to shift for themselves, throwing them daily, bundles of corn stalks or straw, and giving them access to a trough full of ice, which they call water. Did they but know what an increase of milk they would obtain (one third more at least,) that shelter is cheaper than fodder, and that manure thus made under cover is much more valuable than that which is washed and wasted by every storm, they would, I am sure, immediately change their practice.

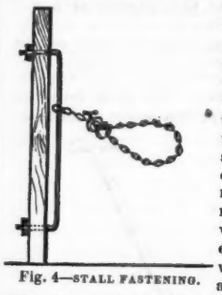


Fig. 4—STALL FASTENING.

The shape and size of the stall is a matter about which every one has his own notions, as also about the best mode of fastening the animals therein. Of all fastenings I consider wooden stanchions the worst, for, besides galling the animal's neck, they prevent its moving its head either way and in fact almost preclude *all* motion. The form of fastening which I like best, is a bent iron rod attached to the side of the stall, as shown in the annexed sketch, (Fig. 4). On this is a ring sliding up and down, to which is attached a chain which goes around the animal's neck. *Two* rings, or links rather larger than the rest and placed side by side allowing the "*key*" to pass through each, make doubly sure, (Fig. 5). This two-ring arrangement is an invention of my own, but it is so simple that I doubt not others have made use of it long ago; I feel sure that no one who has is troubled with cattle getting loose.

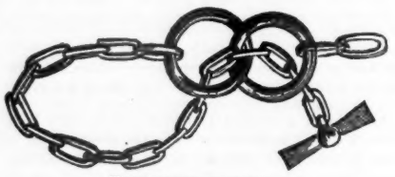


Fig. 5—CATTLE CHAIN.

If we confine our animals to stalls it becomes necessary to provide suitable bedding for them. Good clean straw, and plenty of it, is the best, if you have enough to spare and do not consider it too valuable for this purpose. It takes sometime to rot thoroughly and we often want to use the manure immediately. To obviate this difficulty I resort to the straw-cutter, and taking out two or three knives so as to make it cut in lengths of 3 or 4 inches, *I cut up all straw used for bedding*. The advantages are obvious. There is much less waste of bedding in cleaning out the stable. Cut straw absorbs liquids much more readily and consequently rots rapidly. As soon as the clover seed is thrashed, (and we usually try and thrash it as early as possible so as to save the wheat, oat and barley straw), I use the clover chaff for bedding and find it superior to almost anything else. The clover straw not fit for feed is cut up and used for bedding. Spent tan-bark, sawdust, and even muck, are all good bedding materials, but bedding of some kind I consider necessary for the health and comfort of animals, and have set my face against "*sparred floors*," Alderman Mechi, 'or any other man,' to the contrary, notwithstanding. The quality of the manure is a matter of no small importance; let any one try my plan for the thorough incorporation of dung and straw, and see if the results will not pay better than those obtained from coarse straw which forms the chief constituent of nine tenths of the manure made hereabouts.

With our cattle well bedded, sheltered and furnished with plenty of pure air, we need but one more thing to put them in a state in which every ounce of food will "tell." This one thing needful is an external application composed of:—Curry-combum, Thorough-brushum, Elbow-greasum, of each *q. s.*, mix and apply in early morning daily. The cards and curry combs must be kept moving. Cattle need and profit by their use fully as much as horses, even in Summer. Cattle *must* be kept clean; filth, and irritation from impurities and vermin, cause them to lick themselves inordinately, and the hairs, thus taken into the stomach, in time form compact masses which sometimes destroy the animals. If you have never tried it, you will be surprised to see how it will improve an animal's looks as well as its health. All animals

* The Committee to whom was entrusted the examination of the Essays on Feeding and Care of Animals, after careful examination unanimously decided to award the prize of $50 to "Ruricolist." There were several other very good articles offered, but this is the clearest and most complete.

like it and it is good for all, from man downwards. It also accustoms young cattle to being handled and helps to make them kind and gentle. Besides, it acts as a preventative against lice. Should these pests appear, I recommend alcohol rubbed in along the back and infested parts; if very strong it should be diluted with water.

The straw-cutter has a busy time of it with me. As I have already hinted, I cut up every thing, both bedding and feed; straw, hay and corn stalks, all have to pass through the cutter. I found this paid when it cost me $5 a day to hire it done, and I have since found that it pays still better now that I have a machine of my own. I use straw with hay or stalks, and prefer mixing as it is cut, for I can do the work much more thoroughly. The mixture should consist of two parts or more of straw to every one of cornstalks or hay. The straw keeps the pile from heating, for which purpose, as also for the benefit of the animals' health, an occasional handful of *fine* salt should be scattered over it. Be careful not to cut too much at once, as I have several times done and lost my whole pile of feed in consequence.

Fig. 6—CHAFF FORK.

The animals will do better for an occasional change from hay to cornstalks, and vice versa, it helps keep up their appetite; this may also be done by changing from one kind of hay to another—from clover to timothy, from timothy to Hungarian, and so on. For handling cut feed I find a chaff fork very convenient. Any farmer can make one with a drawing knife and three-quarter-inch auger (Fig. 6). The handle should be 3 feet long and put in rather slanting; the tines are 2 feet long and 3 inches apart; the bows are of hickory, steamed and bent. Such a fork will take up a bushel or more of chaff or cut feed at once, and will be found useful for many purposes.

Do not feed too much at a time; feed often and in small quantities, and always let the last meal be eaten up clean before you give another. Give the first feed early in the morning—cattle are early risers and need early breakfasts. Have a good sized trough to mix your feed in and keep it scrupulously clean. Pour into this the number of baskets full of cut feed necessary, then throw in the allowance of cut roots and meal and incorporate the whole with your *hands*; hands were made before scoop shovels, and you can mix it more thoroughly, and *feel* when it is mixed.

For root feed I use beets or mangel wurzels, as I find I can obtain a larger yield of them per acre; the cattle seem to like them as well as any, if not better; they seem capital for fattening stock, and tend to produce milk in cows without imparting any unpleasant flavor to the milk. Their watery nature, however, necessitates a free mixture of dry food, and they have the disadvantage of making the butter look white. To remedy this I mix a few yellow carrots with the feed given to milch cows. Linseed cake ground, I think, makes the best meal, but the supply in this part of the country is limited, and corn and oats, in the proportion of two parts of the former to one of the latter, ground fine and even, I find makes a very good substitute, and as every farmer raises these two staples he will find it far more profitable to grind and feed than to sell them. For young stock I add to this mixture 4 qts. of pure flax-seed to every bushel of corn. The steaming of food, is a matter on which, I am sorry to say, I have no experience, but incline to the opinion that it will not pay for ruminating stock, especially where the matter would have to be placed in the hands of hired help. The danger arising from fire around buildings and the expense of fuel as well as the first cost of the apparatus, all combine to make me think that the operation will, perhaps, not pay, and if the feed is properly cut and mixed with roots, I feel inclined to risk the digestive powers of the animals to do the rest of the work without help.

As to the proper quantity to be fed to each animal, it is impossible to lay down any fixed rules. Some will starve on what would surfeit others. Milch cows will do well on from 3 to 6 quarts of meal, 2 pecks of cut roots, and 2 bushels of cut feed daily. Working oxen and fattening cattle will require an increase of meal, say 4 to 8 quarts, and a bushel of roots, whereas young stock require but a limited supply of meal and a half bushel of roots per day. Individual animals and the different breeds will differ greatly, and experience and watchfulness alone can make a successful feeder. The rule should be, to feed enough, but to beware of the other extreme; if an animal once gets cloyed it will receive a check which a month's feeding will perhaps fail to obliterate. Clean water with the ice carefully removed should be given three times a day. *Rock salt* should be placed in calf-pens and yards; the animals like it, and it promotes their health.

It is a common practice with many to manage their breeding cows so as to have them come in at the beginning of Winter as they then have more time to attend to the calves. This is, however, not judicious. The foundation of future perfection in animals is laid the first year, and especially in the change from milk to vegetable food, and the most delicate and tender kinds of grass should be selected and introduced in the calf-pen when the animal is a month and a half or two months old. As we seldom have grass fit for the purpose before the middle of April I endeavor to have the calves come in about the middle of February or the first of March, and generally drive the cows to bull as near the first of May as possible, allowing 285 days for them to go with calf. Heifers should not be driven to bull until they are nearly if not quite three years old. My practice is not to allow the calf to suck the cow at all, as it is more difficult to teach it to drink afterwards, and the cow misses the calf a great deal more if it is allowed to suck her even once. As soon as the calf is able to stand I milk the cow and putting two of my fingers in the calf's mouth I hold his head down to the milk with my other hand, when he begins to suck I gradually withdraw my fingers. Sometimes a calf will learn to drink at once, and at other times it will never learn. For the first week the calf should be fed three times a day—as much but no more than it will take and seem to relish. The next three weeks warm new milk should be fed twice a day, and after that, plenty of warm scalded milk with fine oil or corn meal for two months longer, gradually tapering off towards the last so as to wean the animal when four months old. If you have patience to do it, it will pay to boil the oil meal in water, say half a pint of meal to a quart or more of water, and then mix the whole with the scalded milk. This porridge requires constant stirring to prevent its burning; it will, however, hardly pay to make it unless you have calves enough to make it an object to use an agricultural furnace. Bull calves not needed as bulls should be castrated when *one month* old. The ordinary way of doing this is by cutting. A simpler if not a better way, however, is to tie a string firmly around the scrotum near the body. In two or three weeks it will fall off of itself, and will heal far more readily than in any other way. Only the best calves should be selected for raising, and after you have once made up your mind which to keep, no offer from the butcher should tempt you; surely they are worth as much to you as to him. I have sometimes been troubled with calves having the scours; in such cases I have always found a raw egg or a little wheat flour mixed with the feed, and accompanied with careful management, a safe and sure remedy.

Begin breaking calves when they are a week old by leading them in and out of their pens—if you take them young they will soon learn, and will never forget it, and the convenience of the practice must be tried to be fully appreciated. If you put it off too long, the first thing you know the animal will be stronger than you are, and you will have a hard job of it, if you succeed at all. Don't jerk and slash. Go gently but firmly—have a regular halter made small enough; if you depend on a strap around the neck, the animal will be very likely to get the start of you, which should by all means be avoided. If it succeeds once you may be sure it will try it again. It is a good practice to begin tying them up when young.

Great care should be taken to milk cows clean—do it three times rather than once a day; the less they are milked the sooner they will dry up. See that the milkers do their duty *in silence*, and let the milking be done *while the animal is feeding*. Be careful not to expose cows to drafts which may give them a cold and result in garget or inflamed udder. In case such an accident (?) should occur, a few drops of tincture of *Aconite** in water, and a piece of bread soaked therein and applied, is about as good a remedy as any. Steers intended for working cattle should, of course, be trained early—the more they are handled the better, and if possible they should be taught by the same man that is afterwards to have the management of them. Patience and perseverance are requisite. Working cattle when first put to work in the Spring become easily heated and liable to colds; do not put them at too heavy work at first and keep them out of drafts; in the Spring they are better kept up until the heavy labors of the season are over. Oxen have now fallen into total disuse in many parts of the country, but for many kinds of work they are fully equal if not superior to horses, and I regret that the limits of this article will not allow me to dwell upon the advantages that would result from their use.

* A very deadly poison and to be used with great caution.

THE SHEEP-FOLD.

"Now sacred Pales, in a lofty strain
I sing the rural honors of thy reign.
First, with assiduous care from Winter keep,
Well foddered in the stalls, thy tender sheep."

DRYDEN'S VIRGIL.

Although sheep, to thrive, need a range, *shelter* at night and during storms is fully as important, if not a great deal more so for them than for any other kind of stock. The reason of this is obvious. Nature has provided this animal with a thick, warm covering of *wool*. Now, although wool contains a certain oily substance, meant to prevent water penetrating through it, yet if long exposed to rain or snow this proves insufficient, and the wool becomes soaked, and, from its spongy nature, when once wet, stays wet, and often gives the animal a cold which terminates its existence. To prevent this calamity we must provide shelter for them. A good shed and a yard inclosed by a tight board fence placed so as to get the full benefit of all the sunshine, are requisite to winter sheep.

I annex a diagram of a sheep shed, (Fig. 7 & 8,) planned for my own use. The back and sides are boarded tight, and the front is composed of a series of swinging doors which may be hooked up in the day time and let fall at night. The floor has sufficient inclination for drainage. A feeding rack runs along the back from end to end, small doors from the outside affording a ready means of introducing hay into it. There are two or more ventilators in the roof and numerous *inlets* for air provided near the floor. The roof in front should come down to within four feet of the ground and be provided with a gutter. Such a building 10x30 would afford accommodations for fifty to

Fig. 7—SHEEP SHED, (END ELEVATION.)

seventy five sheep, which is as many as should be allowed to a flock, as in small numbers they more uniformly do better than in larger flocks, even with the same proportionate allowance of food and attention. To pass through the winter well, sheep, like all other stock, must be in good condition when they begin; if not, good provender and extra care will fail to carry them well through. After the first of December they should no longer be allowed to ramble over the fields, as it is poor economy to expose them to the inclemency of the season for the sake of what little food they can pick up. As early as October I begin feeding them a moderate allowance of roots, beets being as good or better for this purpose than

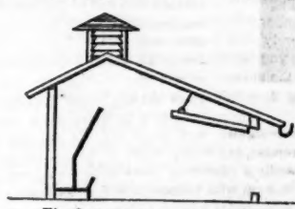


Fig. 8—SHEEP SHED, (SECTION.)

any other, if a small quantity of meal is mixed to counteract the watery nature of the root. The feed need be but small at first, and increased in quantity and frequency as the time draws near for putting them in winter quarters. At least as soon as brought in, the different kinds and breeds should be separated, the ewes all put by themselves, and the buck turned with them by the first of January or before, as the ewe requires 152 days for gestation and we want our lambs to come in as soon as the weather is settled in the Spring. The lambs and wethers should also be separated and divided in flocks, of which each member shall be as near of a size as practicable, so as to prevent the stronger from taking the lion's share.

Sheep will sometimes have diarrhœa when first put in from grass, and fed on roots and hay; when potatoes are fed raw this will be almost sure to occur, as they possess loosening properties, and should never be fed in the early part of the season unless cooked. If diarrhœa shows itself it must be checked at once by administering a scruple of opium and two or three ounces of castor oil every other day, or if discovered soon enough, a dose of 2 pints of scalded flour two or three times a day will perhaps be better

Should sheep catch cold from exposure, and discharge matter at the nose, a little tar or pitch from pine boughs is the remedy. Should foot rot show itself, my remedy would be to sell out and turn to some other branch of stock raising, although John Johnston, the veteran tile drainer and sheep feeder, recommends paring the hoof and rubbing into the sores a salve of blue vitriol and lard.

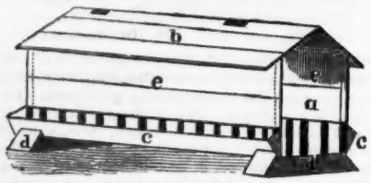


Fig. 9—SHEEP RACK.

Feed sparingly rather than sumptuously, and three times a day. Sheep delight in a change of food. Clover hay is perhaps better adapted to them than to any other animal, and from the large amount of nitrogen it contains will greatly enhance the value of their manure. An animal weighing 100 lbs. will consume about 3 lbs. of clover hay or its equivalent per diem. Straw may be substituted for hay as a change, the quantity being increased. A fat sheep will not consume as much in proportion as a poor one, and it will need no grain. Sheep should therefore never be allowed to fall off, and as soon as one becomes thin it should be at once removed to the hospital and fed well until it recovers; if once it reaches a certain point it will be past recovery.

Racks for feeding hay and straw should be upright, so as to prevent the seeds from falling into the wool about the neck. Fig. 9, is a section of such a rack. The hay is placed in the space *a*, and covered by the roof or lid *b*; *c*, *c*, are troughs to catch the seeds from the hay and for feeding meal, etc.; *e*, *e*, are tight boarded sides, and *d*, is a solid square piece of timber at each end which makes the whole thing set solid on the ground. Sheep *must* have water when confined to yards in Winter. In Summer they feed when the dew is on, and thus get the name of living without water, but the idea is erroneous. If your hay is not well salted, place a lump of rock salt in the yard where they can lick it; let nature regulate the quantity and they will not take too much.

Wethers which are meant to supply the winter market should be kept in the dark, and great care taken not to disturb them when feeding—they will thus be quiet and naturally lay on more flesh. Let them have a gallon of cut potatoes or beets every day, ½ or ¾ lb. of oil cake meal, which is superior to any other for sheep, and plenty of good bright clover hay. To catch and handle them, carefully drive them into a small pen and you will accomplish it easily and without heating and exciting them.

A month or six weeks before ewes are expected to yean give them somewhat more food, being careful, however, not to get them in too high condition and thereby increase the risk in yeaning—½ gill of Indian corn a day to each is a good allowance. As the time draws near, give them warm shelter and plenty of bedding at night, and watch them closely so as to assist nature if necessary. Be careful what you feed in the shape of roots; turnips are said to affect the milk and injure the lambs. A quart of potatoes or beets will not be out of place. Should they refuse to own their lambs, shut them by themselves till they will. If a ewe dies, feed its lamb with fresh cow's milk, and should a lamb of the same age die, clothe the orphan with its skin, and if not bloody, the ewe will at once take to it. Buck lambs should be castrated when from two to four weeks old, as the weather will allow. A simple incision made on either side for this purpose will heal most rapidly, but as this does not always afford sufficient outlet for the blood, it is best to cut off the whole lower portion of the scrotum.

PIG-STY.

Of all farm stock, hogs are perhaps the most indispensable on account of their nearly omnivorous nature, and the ease with which they appropriate the refuse of the farm that would otherwise be lost. Hogs need a building for their accommodation as well as every other kind of stock. This may be small or large, as the means of the builder and the number of animals he may intend to confine dictate. A simple inclosure with a few boards placed across one corner is the simplest form of pen, and from that up to the magnificent piggery erected by Earl Egremont of England, there are of course many gradations. For confining hogs in Winter, a covered inclosure, if properly ventilated, is best. For sows and boars this will need to be larger than for fattening hogs, which latter only need room to move around. A plank or stone floor is essential for the sleeping apartment at least, for the sake of cleanliness and ease in throwing out the manure, a "chore" which should be attended to daily. It will also save a great deal more of the manure which is of more value than any other made on the farm. The hog is an uneasy animal; every thing about his dwelling must be made tight and strong, or he will give much trouble, by once in a while "breaking cover." Where practicable, stone walls are the best inclosures. When a building of considerable size is erected, it should have a cellar underneath for the purpose of storing roots, potatoes, etc., and meal bins and a corn crib overhead. (Figs. 10, 11, and 12). A good thick brick chimney and one or more ventilators should also be added. Iron or thick plank troughs, securely spiked to the floor, and an agricultural furnace are the necessary furniture. Every mouthful of food should be cooked. In this part of the country we begin fattening hogs as soon as we begin to husk corn. The *soft* corn and *nubbins* are the principal food for about 3 weeks or a month, when hard corn, shelled and cooked, or what is still better, very thick corn meal gruel is substituted and continued until the animal is slaughtered. It is better to begin feeding in September as soon as the corn is cut, and the pumpkins can be got at, as the latter are excellent for hogs and enable us to *begin* fattening before the early frosts. An occasional mixture of charcoal with the food greatly strengthens and stimulates the digestive powers. This is undoubtedly the best way to make pork, but to feed

Fig. 10—PIG STY WITH CORN LOFT.

for market, corn is often worth too much; and although the particular flavor of corn-fed pork is easily distinguished and appreciated, yet it will seldom pay. Beets are hardly nutritious enough for fattening hogs, though they form a very good food for pigs from 3 to 4 months old; they are injurious to pregnant sows and to small pigs. Turnips or carrots, if boiled or steamed, do very well; but potatoes cooked and mashed, are superior to all other

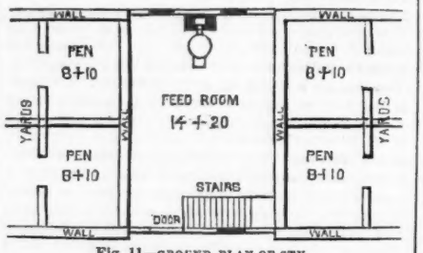


Fig. 11—GROUND PLAN OF STY.

food of this class. It will not pay to feed hogs long after the first of December. If properly managed they will then have laid on all the fat they are capable of.

The period of gestation in these animals is about 120 days, and, if properly managed, 5 litters may be produced in two years, varying from 5 to 16 pigs at a litter. It is very difficult to rear winter litters on account of the extreme susceptibility of the young animals to cold. We should therefore manage so as to have sows farrow early enough in the Fall, or else late enough in the Spring, that the pigs may be out of danger of severe cold. November is as soon as the boar should be turned in for spring pigs. Breeding sows need close watching when about farrowing both for assisting nature, if necessary, and to prevent their killing their young by lying on them, as they often do.

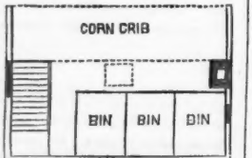


Fig. 12—PLAN OF CORN LOFT.

On this account, also, it is best not to give too much litter, as the young are apt to nestle under it; cut straw, as recommended for cattle, is best. Sows will also sometimes devour their young, and should have a small allowance of animal food, with ashes and charcoal, to satisfy their cravings. The young should be weaned when six or seven weeks old, and fed skim milk and swill until we are ready to fatten them.

Hog yards should be well covered with muck, chaff, or straw, so as to absorb all the manure. Muck is perhaps best, as it absorbs and retains most manure. No animal loves cleanliness better than the hog, and it is in fact necessary for its welfare, as the gross food it lives upon renders it peculiarly liable to attacks of vermin and diseases of the skin. Even brushing and carding them is beneficial and perhaps profitable.

THE HORSE.

Shelter, pure air, light, and care, are more necessary to the welfare of the horse than to any other animal, and if neglected he will show the effects much sooner. Horse stalls must be roomy, especially for breeding mares—six feet is about the right width. They must be well drained, the floor having a slight inclination to the *center* of the stall, where a grate communicates with a short drain connected with the main drain that runs the whole length of the stable, allowing the urine to escape readily. The floor should be tight, both for the purpose of saving the manure and to protect the horse from the cold drafts from beneath. No slide or rack should be permitted by which the horse will be annoyed by the dust from the hay; nothing will tend to give a horse the heaves so soon as this. Horses should be tied in the center of the stall, or they will be liable to drive more on one rein than the other. A report of the London Omnibus Company, shows clearly the value of cut-feed. "They use 6000 horses—3000 are fed 16 lbs. *bruised* oats, 7½ lbs. *cut* hay and 2½ lbs. *cut* straw daily each, and the other 3000 with 19 lbs. *un*bruised oats, and 13 lbs. *uncut* hay apiece daily—making a weight of 26 lbs. fed to the first, and 32 to the second, and there was no difference in the amount of work performed or condition of the two, making a saving of 6 lbs. per day in feeding each horse, estimated at 5 cents a day, or $200 a day on the 6000." Unthrashed oat straw run through a cutter and mixed with cut hay forms a capital food for horses. Clover (as usually cured) is perhaps the most objectionable hay for horses, on account of its dust which will inevitably result in the heaves, unless it be thoroughly wet. If fed uncut, it should be wet and shaken up before putting it in the manger, and every stalk is thus moistened equally, which is not the case where it is put in the manger and a little water sprinkled over the top. If cut, it should be mixed with straw and roots or meal in the feed-trough, and the whole wet thoroughly. I could never succeed in making horses eat beets, although they are said to eat the yellow beet if mixed with chaff. Carrots are the best for their use, and every farmer should raise a sufficient quantity to afford his horses a moderate allowance through the Winter. The sleekness they impart to the coat, and the improvement in the spirit of the horse, will amply repay the time and expense.

Condition powders are sometimes given to horses to help the heaves and improve their looks; they are hurtful, however, as they render the animal liable to take cold. The best condition powder I know of is an application of the currycomb and brush two or three times a day. Never attempt to clean the animal when eating, as it makes him inclined to bite and kick. The best way is to have an open shed where you can fasten him while he is groomed. The comb should be used rather lightly, as the horse's skin is tender; a thorough brushing should succeed and be followed by a good rubbing with a woollen cloth. This may seem a good deal of work, but it will pay. Horses when put to farm work should be groomed every night to alleviate soreness of muscle. Currying helps the circulation of the blood and opens the pores by removing the scarf skin. The mane, foretop, and tail, must be thoroughly combed, and the feet examined and cleaned to see that no stones or dirt accumulate. A recently introduced horse-shoe is in this respect good—the ground surface of the shoe is beveled so as to favor the ejection of stones, mud, snow, ice, etc. (Fig. 13).

Fig. 13.

Bedding should be cut for horses as well as for other stock; they will sometimes prove troublesome by eating their bedding, in which case, if sawdust can be conveniently obtained, it will be the best litter for them. Morning and night the stalls should be cleaned out and the litter well shaken up and aired, and all the food remaining in the manger removed and replaced with fresh. The horse is not an animal that we want to fatten for the butcher; we only want to keep him in good working condition; if fed too much he will become "logy" and lazy. Breeding mares are usually at rest during the Winter. Their period of pregnancy is 11½ months, varying a few days as they grow older. They require about the same care as other horses during Winter, attention being paid to keep them from straining or jumping as the period for foaling draws near. They should not be used unless naturally very gentle. Colts should not be castrated during the Winter if it can possibly be avoided; from 4 to 12 months is the right age, and Spring is the best time.

POULTRY.

You can not winter poultry profitably without a building for the purpose; it may be a simple shanty or a build-

ing of tasteful architectural appearance. Before Winter sets in, this building should be whitewashed, and the floor covered with gravel; if you confine them to a yard the house must be kept whitewashed all the time. The principal care of poultry in Winter consists in preparation for market, and obtaining eggs—in the latter, few succeed. Shelter and warmth are the first requisites—then clean straw and whitewashed boxes for nests, and plenty of food. A supply of lime, ashes, gravel, corn, and *meat*, is necessary, and if these and plenty of *unfrozen* water be given, there need be little fear that eggs will not be plentiful in January. I seldom if ever give my fowls enough animal food during the Winter; in the Summer they scratch up worms and insects for themselves. To fatten chickens for market, confine in small coops, keep them quiet and feed on boiled corn or ground oats and milk—the secret is to feed often and but little at a time. If intended for a distant market they should be fasted for from twelve to fifteen hours before killing, or better yet, afterward filled with powdered charcoal. Judge Buel asserted that they may be kept for two months by pursuing the latter course.—Turkeys consume so much food during the winter that it will generally be found advantageous to dispose of them early. They may be all fatted together and killed, and then either filled with charcoal, as recommended for chickens, or frozen and kept so, this, however, some say affects the taste.

Having no acquaintance with the management of bees, I must, with these remarks, close this essay on the Winter management of farm stock, well aware that I have not done the subject justice; and I am sure few have sufficient knowledge of *all* the different animals to give perfect rules for the management of each. Each kind is a study to which alone a man may devote a lifetime. R.

For the American Agriculturist.

Too Much Fat.

MR. EDITOR.—The candle makers ought to pay some agricultural papers handsomely, and they could also well afford to *grease* a good many judges at Agricultural Fairs, for their efforts to make tallow and lard plenty. Thanks to the teachings and decisions of the above-mentioned authorities, the notion very largely prevails that the chief end of stock breeding and feeding is to make fat. Great stories are told of Mr. A's oxen which dressed ever so many thousand pounds, with an unheard-of amount of rough tallow. The public are invited to examine extra specimens of abundant tallow hanging in the stalls of the butcher who has paid premium prices for *the great fat steer*. When a farmer proposes to exhibit an animal at the Fair, he keeps a good path trod between the corn crib and the feeding place, and every ounce of fat he can crowd upon the creature's ribs, he counts as one more chance towards a favorable opinion of the judges. If pure fat were desirable food, all this would be highly commendable, but the fact is, comparatively few eat the unadulterated article, and most of it finds its way to the tallow-chandlers. A mixture of fat with the lean, is almost universally relished, and is not unwholesome; but an over-fed, enormously fat animal, such an one as attracts the gaping crowd, is not in a healthy condition, and can not furnish healthful food. It is the opinion of well informed men that many diseases arise from the excessive use of fat meat, particularly pork, which is common in this country. I believe it should be the aim of breeders to increase the quantity of meat upon an animal's bones, without striving to cover it with tallow or lard. An animal of vigorous constitution well fed—not stuffed—and properly exercised, will develop a large amount of muscle (good lean flesh), and by proper selection among such specimens for breeding purposes, this characteristic can be fixed in the progeny. JONATHAN.

AN ARTIFICIAL SOW.—The Mark Lane Express gives the following, from a correspondent: "A fine sow, having twelve sucking pigs, owned by a pork merchant in Monkwearmouth, died suddenly. The proprietor, who is an ingenious character, set to work and formed a rough model of a sow in wood, hollow in the center, and furnished with twelve teats formed of raw hide. The interior was filled with milk, and the young pigs took to it very naturally, and throve well!"

For the American Agriculturist.

How to get Good Crops.

Manure is the great secret of profitable farming. Skill and tillage are important in their places, but these avail very little without manure. With plenty of manure, we can get almost any thing we desire out of old land. Without it, we can hardly get pay for our labor.

To show the power of manure to produce crops and to make money, I will give the following statement of the treatment and produce of three quarters of an acre the past season.

The field was a worn out meadow, producing less than half a tun of hay to the acre, and had received no manure in twenty years, except from cattle pastured in it. The soil was a gravelly loam, and the subsoil a yellow loam of good quality. About thirty dollars' worth of manure was taken to the field during the winter, principally night soil and hog dung. This was spread and plowed in in the Spring. At planting time a compost was prepared of one hundred and fifty pounds Peruvian guano, a cord of muck, and a half cord of night soil, for dropping in the hill. This was mixed three weeks before planting, and put in a pile under cover.

The lot was plowed about seven inches deep, and harrowed, and planted April 15th, with Wendell's Seedling potatoes, putting a handful of the compost in the hill. They came up in about three weeks, and as soon as the ground began to crack with the young shoots, the whole piece was run over with a light horse harrow, destroying every weed. This was equivalent to once hoeing, and gave the crop a good start. About the middle of June, the spaces between the rows were planted with beans, cabbages, and sweet corn for a succession crop. The potatoes were dug from the first to the twentieth of July, when the succession crops had the field. The cabbages were nearly a failure, owing to depredations of worms, the last of July. As the corn began to give ears the last of August, the spaces between the rows were sown with white turnips—cowhorn, strap leaf, and other varieties.

The receipts were 84 bushels potatoes—Sold at from 80 cents to $1.20 a bushel, averaging $1	$84.00
Beans and Cabbages	2.00
Sweet corn sold at 10 cents a dozen	20.00
Rock turnips, 39 bushels—sold at 32½ cents	13.00
White turnips, 20 bushels—sold at 20 cents	4.00
White turnips, 50 bushels, for feeding, at 10 cents	5.00
Total from three-fourths of an acre	$128.00
The expenses of the crop were—Rent	$10.00
Manure	40.00
Labor	25.00
	$75.00

This shows a profit of $53 on three quarters of an acre of land. If we reckon one half of the manure only as expended upon the crop, as is common, it will make twenty dollars more added to the crop this year. There can be no doubt that the land is in much better condition than before it was broken up. This statement is not given as an example of large productiveness, or extraordinary profit for market gardeners who have the conveniences for forcing and more abundant manuring. But it shows what may be done by farmers in the vicinity of good markets, by a little extra pains. Early potatoes, early planting, and high manuring, will make at least a difference of three weeks in getting potatoes to market, and this adds about one half to the price. Potatoes that go quick at one dollar and a half a bushel July 4th, are worth but seventy five cents a month later. A great many acres conveniently situated to market, might be easily made to double their productiveness and their profits. PRACTICAL.

Ice for Use and Ice for Sale.

The ice crop is every year becoming more important—no longer regarded as an article of luxury and an accompaniment of sumptuous living, but a necessity of life and trade. To our milkmen and butchers, in public and many private houses, especially in hospitals and sick rooms, it is *daily bread*. Our navy consumes immense quantities of ice also, and just so far as our commerce is re-established in the South, will the demand increase, while we at the North are annually increasing the home consumption of the article, in a ratio which often more than realizes the expectations of those upon whom the public depend for a supply. Should a general opening of trade with the South not occur until late in the Spring or Summer, the demand for ice at large prices will be very great, and the price at points on the coast favorable for shipping will be greatly increased, unless a large supply is stored this Winter to meet this very emergency.

Ice, to keep well, must be stored on dry ground, and protected from the sun, from rain, and from a circulation of air. The smaller the mass of ice the more thoroughly must these conditions be met. A house twelve feet square, double boarded, with a space of 10 or 12 inches filled with sawdust between the boardings, well roofed, and shaded from the mid-day sun, and situated on dry ground, and well drained, will keep ice well enough for a family, though the waste will be considerable. When ice is packed very closely and in very *large* quantities, a thatching of straw and hemlock boughs will be relatively quite as effective. The use of boards or rails to keep this protection in place, will be found advantageous, and it should be so disposed that rain will be completely shed; and all water, whether from rain, thawing of the ice, or other sources, must be carried away in surface drains around the outside.

Places Wanted on Farms for Boys.

Scarcely a day passes without inquiries addressed to the Office of the *American Agriculturist*, in person or by letter, from business men who wish to place their sons upon farms with good intelligent cultivators, where they may learn both the theory and practice of farming. Many of these business men are able to purchase farms for their sons, but wish first to give them a preparation. A majority of them are willing to pay liberally for board, and oversight. Others desire their sons to work nearly or quite enough to pay their board. Now we think it would be for the mutual advantage of all concerned, if a considerable numbers of farmers of the right class, would take these boys; few of them are unruly, but most, quite the contrary. We will take it as a favor if any of our readers who know of good locations for boys on farms under good cultivation, where they could be taken into the family, will let us know the name and address of the farmers to whom application can be made. Such letters we will place on file to be referred to by those who may hereafter make inquiries of the character referred to.

French and German Asters.

The engraving presented herewith exhibits, so far as can be done in black and white, the appearance of a beautiful bouquet of Aster Flowers shown at the *Agriculturist* office recently, by John Wesley Jones, of Columbia Co., N. Y. One can hardly have an idea of the real beauty of these flowers, without seeing the blooms themselves, or a *colored* picture of them, showing the brilliant crimson, purple, blue, etc., with the intermediate colors. For the purpose of raising seed for distribution to our subscribers, we sowed nearly ¼ acre with these *improved* asters, and never have we seen anything more beautiful in the floral line.—Perhaps no flower has undergone more changes and improvements within a brief period, then the aster. The single ray of "red, white, or blue," has given place to the full quilled, Giant Emperor, Chrysanthemum flowered, Ranunculus or button formed, Pæony perfection, etc., with every shade of color, running from pure white to lilac, pink, and crimson; and from light lavender to deep blue, with the various shades intermingled in the same flower. Then in size, they range from the dwarf ranunculus-flowered, scarcely three-fourths of an inch in diameter, and growing on a stalk less than one foot high, to the giant sorts on three to four-feet stalks, with flowers two to three inches or more in diameter, and resembling the pæony in form and size, but greatly excelling it in beauty of petals. These great changes have been brought about by carefully selecting seeds of the finest blooms, and giving them high culture, so as to change the *stamens* into *petals*. French and German florists, conspicuous among whom is M. Truffaut, have brought about these "improvements," and made this one of the most desirable flowers. Besides being one of the prettiest annuals, the aster is of very easy culture. It will flourish in any good garden soil, and may be sown in the open ground at any time in May, or June even, covering with one-fourth inch of finely pulverized soil. They are best sown in drills, 15 inches apart, or thinly massed in small plots, with the tallest sorts in the center. When practicable, it is desirable to sow a portion of the seeds in pots, under glass, early in April, or the last of March, and then transplant them into the open ground, in the border and elsewhere, when the ground is warm, and the weather settled. These, with seed sown in the open ground in May and June, will furnish a succession of beautiful blooms all through the Summer and Autumn, until severe frost cuts them down. It is unfortunate that the finest blooms supply so little seed for wide diffusion. The petals or flower leaves in the most double sorts nearly or quite fill up the center, leaving little space for seed.

Nos. 1 and 5. Chrysanthemum Asters.
Nos. 3 and 4, Globe Quilted Asters.
Nos. 6 and 9, Bouquet Pyramidal Asters.
Nos. 2, 7, 9, and 10, Truffaut Pæony Asters.

A BOUQUET OF FRENCH AND GERMAN ASTERS.

Drawn and Engraved from the Flowers, as shown at the Office of the American Agriculturist, November, 1861.

Use of the Pruning Knife during Winter.

Mild weather in Winter is the pleasantest time for pruning, because we then have more leisure and can work more deliberately, because we can see every part of the tree, and because there is nothing on the ground to be injured by the feet, or by the falling branches, or their removal to the wood pile. It is the experience of every body who has pruned ornamental trees, and especially apple trees much, that sometimes the scars will heal, and sometimes they will not—the wood often becoming soft, and penetrated by decay, and finally, seriously injuring the tree. It will be found that a limb less than two inches in diameter will seldom make any trouble in this way. Large limbs cut in the Winter, and particularly toward Spring, will bleed, often profusely, so soon as the sap starts. The sap in early Spring is very fluid, and has the property of "scalding," that is, killing the live bark upon which it flows in any considerable quantity. Thus we often see where a large limb has been cut off, a decayed hole and a strip of dead bark or bare wood for a yard or more beneath. After the leaves put out in the Spring, the sap becomes thickened and sluggish in its motion, so that when the first evaporation takes place on the fresh cut surface, none will flow out, while the wood itself remains hard and impervious to water, and the scar, however large, gradually heals over. On the whole, therefore, we advise never to cut off large limbs except after blooming time, though these may be partly lopped off, and reduced in size in Winter, so as to be conveniently removed altogether in May or June. To debar oneself the privilege of doing any winter pruning is, we find, to crowd work terribly in Spring, and to make this otherwise pleasant labor a trial and a bugbear.

Pruning Grape Vines, and letting them Grow "Naturally."

A friend asks if the whole system of pruning the vine is not unnatural and mischievous? It *is* unnatural, but it is equally unnatural to raise such fine fruit as we do by this means; and you will not therefore object to the fruit, we imagine. If you insist on natural vines and natural fruit, go into the woods, and climb the trees for the small, sour, hard clusters. And if you don't come home feeling somewhat unnatural in the stomach, we will yield the point.

To get large and handsome fruit, we enrich the soil; but this also induces an overgrowth of canes, which must be checked by pruning; and to restrain this overgrowth most effectually, we must of necessity prune some in Summer.

Our friend admits that there is some sense in Summer pruning, "for that sends all the strength of the vine (he says) into the clusters, and lets in the rays of the sun upon the fruit."

But are you not a little too fast here? How does cutting off the foliage send the strength of the vine into the fruit? It is an accepted fact, that the clusters get their growth and flavor through the action of the foliage. As well take away a man's stomach and lungs, that so he might get strength! And as to letting in the sun on the clusters—why does Nature take such pains always to cover up the clusters? Have you not observed that the fruit ripens in the shade of the foliage just as quick as when exposed? If you wish to make your berries small, and sour, and to keep them from ripening, then strip the vines of their leaves almost entirely. If you wish them to be large and to ripen early, then give the vines a moderate Summer pruning, consisting chiefly in rubbing out all superfluous shoots as soon as they appear, and in pinching off the fruit-bearing branches three or four eyes beyond the last cluster.

Daphne Cneorum.

This is a beautiful little *evergreen* plant, growing about one foot high, and forming a dense mass of foliage, which is covered the greater part of the Summer with small purple flowers, that give forth the most delightful fragrance. It is perfectly hardy, withstanding our coldest Winters without injury. If there is any one plant better deserving a place in the garden than another, it is this beautiful Daphne. It will grow in almost any good garden soil; but one compposed partly of leaf mold is the most suitable. It is easily transplanted while young, but the old plants are very impatient of removal. It is propagated by layers, which should be put down in the early part of the Summer, or like other evergreen plants, at the time it is making the most rapid growth. The best mode of making the layers is shown on page 131 of the May *Agriculturist* for 1860. The plants have been somewhat scarce, but nurserymen are turning attention to their propagation, and they will ere long become abundant, and we shall hope for their wider diffusion. The poor mountaineers of Tyrol and Switzerland bring large quantities of this plant to the villages, and sell it in little nosegays, under the German name of Stein Rœslein, (rock rose).

No Glut in the Fruit Market.

Some fifteen years or so ago, the prediction was continually made that, in ten years' time, there would be a glut in the fruit market. Nurserymen were advised to wind up their affairs and get out of the business in time, or they would soon have no customers for trees. Farmers were counseled to refrain from planting orchards, for it was predicted that even choice fruit would not sell at good prices. There was then quite a little panic, here and there.

But how has the event proved? Trees have continued to be planted from that day to this, and they are all wanted. Many have died from the neglect and carelessness of orchardists, and from the vicissitudes of the seasons. The market for fruit has continued to enlarge. There are millions of mouths to be filled now, where, twenty years ago, there were thousands, and more people appreciate choice fruit. They have found out that it is healthy food, and that it is cheaper to pay the apple-man's bill, than the medicine-man's. Then, too, the foreign market has been brought to our very door, within the past fifteen years; it is now only eight or ten days off, with an unlimited demand. It rarely happens that apples, our most common Summer fruit, are so cheap that even every well-to do family can afford to use them with entire freedom. Abundance in one locality usually counterbalances scarcity somewhere else, and prices are generally maintained.

The market glutted? Send on your fruit! Plant orchards, and take care of them. Raise fruit in variety, early and late. If you are within easy reach of a city market, raise the smaller fruits, strawberries, currants, raspberries, grapes, cherries, peaches, etc. Before the market begins to be glutted, we promise to raise the alarm.

Cactus Speciosissimus.

The above cut, though correct in outline, gives but a poor representation of this most gorgeous of all this most beautiful tribe. The expanded flowers of well grown specimens are from 7 to 8 inches in diameter, and of the most brilliant blending of scarlet, crimson, and violet shades. We have frequently seen plants of six feet in hight, and three feet across, with 30 expanded flowers at a time, and thus seen, it equals in beauty any production of the floral kingdom.

Another interesting species of the genus is *Cactus grandiflorus*, or more correctly, *Cereus grandiflorus*, having flowers considerably larger than the above, of a whitish yellow, which are expanded only at night—generally in perfection at midnight—emitting a most delightful fragrance. This variety is not quite so free to bloom as *speciocissimus*, and this, coupled with its rare habit of expanding its bloom only at night, makes it, when in bloom, an object of more than common interest. These species of *Cactus*, though natives of the tropics, are of easy culture. Pieces of the stems take root readily in the open ground during the summer months, in any place where the soil is loose and sandy, and never for any length of time saturated with water. When rooted, they may be potted in sandy loam well enriched with rotted manure, and removed to the plant room or green-house, where they should never be exposed to a temperature of less than 40°, nor much above 80°. The temperature of what is termed a "warm" green-house, is best suited to develop their growth and bloom. It is a common belief that the cactus requires little or no water: this is a mistake, though they will exist for months without water, yet in this state they do not grow. If it be desired to keep them growing, in a temperature say of 60°, they will require water *when dry*, the same as any other plant. In a low temperature, with a damp atmosphere, watering must never be given, as in that condition they will never become dry.

Jottings in the Flower Garden.

Not made this Winter with mittens on, but in Summer and Autumn, and now transcribed at leisure for the readers of the *Agriculturist*.

July 10th....These Japan lilies are not doing as well this year, as formerly. An old florist tells me that they need a peculiar soil, and a change of soil once in three or four years. They grow best in a mixture of sand, wood's earth, a little old manure, and common soil. They *are* well worth all the care they require.

July 15th....This patriotic assortment of verbenas works pretty well. In former years, I had set out my plants without much regard to arrangement of colors, aiming only to get the finest flowers in the market. But this year, I determined to try something new; and the "Red, White and Blue" being the national war-song, I thought I would inscribe it on my verbena bed. So here in front, is a curved line of red, one of white next behind, and one of blue beyond. Aside from the patriotism of the thing, the colors are such as always sort well in a bouquet. Don't tell me that this floral flag will not help decide the fate of the nation!

Aug. 20th....Hail to the new Gladioli! What an improvement on the old sorts! The long honored *floribundus*, and *gandavensis*, and *byzanteum* were well enough in their way, and are not to be cast aside now, but these new French hybrids eclipse them. Let's see; it was M. Souchet, of Paris, who originated most of these novelties. Great praise to you, sir!

Here, mark down the names of a few of the best in our border. They are, Brenchlyensis, Galathee, Madame Henrieq, Osiris, Joan of Arc, Egerie, Adonis, Hebe and others. Some of these, like Joan of Arc, are very tall and need stout rods four feet long to support them; otherwise they will be blown over and broken. It is one excellence of these plants that they require so little care. Any good garden soil will answer; and they need no watering or mulching or guarding from insects. Set out the bulbs a foot apart, about the 10th of May, drive in stakes by the side of each, and tie up the stalk as it grows, with cords. In the Fall, before the ground freezes, cut off the stalks near the ground, dig up the bulbs, and keep them in a dry root cellar, free from frost.

Sept. 3d....Take off your hat to this bed of plants whose leaves are their flowers, as Patrick says. Don't know their names? Well let us read the labels on them. Here is *Farfugium grande*, with broad, leathery leaves of a green ground mottled with yellow spots. An odd thing. The next is a new variety of *Amaranthus tricolor*, and so is that. The first, with dark, purplish crimson leaves, dashed with blotches of bright vermilion, is very striking, when the sun falls upon it. And that, with pale green leaves, strongly marked with dark crimson and yellow at the base, is quite curious and showy. Next to these, are plants of the "Dusty Miller Geranium," whose silvery leaves are in striking contrast with the foliage around, and especially with that of *Perilla Nankinensis* beyond. As a fringe to the whole bed, here is a row of silver edged geraniums.

This border has, on the whole, proved the most noticeable corner of our flower garden, this Summer. The vivid contrasts of color and form of foliage, and the fact that the colors are part and parcel of the leaves, not of the flowers, is what arrests the attention of man, woman and child. Usually the leaves of a plant have to play second fiddle, but here the blossoms have to do that, and the *leaves* make all the show and have all the glory. We fancy that the Petunias and Lilies yonder are jealous of this much admired bed, and would fain pull themselves out at the root, in their passion to get across the walk and thrash these showy leaves!

Sept. 10th....These double Zinnias have not turned out to be so grand an affair as was predicted. In the first place, full two thirds of the costly seed is spurious, and then the double flowers are less brilliant than the old, single sorts. Still, they are valuable for a variety.

Near this bed, is a root or two of the Sensitive Plant. Will children and young ladies ever tire of noticing this curious plant, and touching its acacia-like leaves, to see them shrink, close up, and droop to the earth! It would take away much of the poetry of the thing, if I should tell them that the plant is just as sensitive to the touch of a stick as to that of the human hand; so I won't tell them. But even with the poetry taken out, it is a curiosity in vegetable life.

Much from Little—A Mechanic's Homestead.

Within a mile from where we now write, there lives a poor man, who has accomplished so much in his little garden, that we must speak of it as an example to others. About ten years ago, when he came into possession of his acre and a quarter lot, a small house and barn stood upon it; there were three old apple trees in one corner, and hard by were two scraggy knot-covered plum-trees: on each side of the front door were two Balsam firs. A part of the ground was devoted by the former owner to potatoes and a few other vegetables. Such were the "investments" on this place.

The new occupant on taking possession early in the Spring, began with the apple-trees, which bore nothing but worthless "natural" fruit. He grafted a part of each tree with R. I. Greenings, Baldwins and Spitzenbergs, and at the same time scraped the trunks and limbs clean of vermin nests, and gave them a good caustic washing. The half-dead plum-trees were cut up by the roots and burned, and their place made good by several nice dwarf-pear trees. The Balsam firs were not disturbed, but a few other handsome shade trees were set out in front of the house to keep them company. The whole of the ground, except a narrow grass plot around the house, was put under the plow, then dragged and worked smooth for planting. Potatoes and corn were, of course, the main crops, but not the only ones. Beets, onions, carrots, cabbages, turnips, cucumbers, squashes, pumpkins, beans, peas, and all the rest had their allotted place. Most of these articles were grown in drills, Mr. Johnson believing this saved time, labor, and space.

Our friend is quite systematic. On the south and west sides of his garden, where the ground was somewhat shaded by fences, he set his raspberries and currants, believing that they would thrive better there than in a very sunny exposure. But he did not fall into the mistake of allowing weeds to creep in from a neighbor's land. The raspberry plants were annually manured and kept under as clean cultivation as any other part of the garden. On the north side, protected from the cold by a high fence, he set his grapes. He set others, too, on the sunny side of his shed and barn, occupying every available spot with a choice variety. At first he planted only the Isabella, Clinton, and Catawba; but of late, he has added the Diana, Rebecca, Concord and Delaware.

Dwarf pears have succeeded well in his hands. Having two or three cross-walks, with borders on each side, he set out pears in these borders eight feet apart. He planted only those sorts which had proved generally hardy and productive; and rigidly confining himself to these, he has met with few failures. He used no manure at the time of planting—for he was too poor to buy it—but he has enriched the surface around them every year since.

And this suggests another thing. His land has been brought up from comparative barrenness to high fertility, without purchasing a single load of manure. The droppings of the cow have been carefully saved and mixed with absorbents. The pig-pen and hen-roost have been little mines of wealth. Weeds and other refuse have been thrown in for the grunters to work over into compost. In one corner of the little barn-yard, a saucer-shaped place was dug out water-tight and capacious. Here, muck, sods, saw-dust, chip-dirt, leaves, and old straw were thrown from time to time, to absorb the kitchen and chamber slops. Nothing was allowed to waste on the premises, that could be turned into manure. Thus at the end of every year a fine pile of rich compost was provided, ample for all the wants of the place.

Mr. Johnson is a mechanic, and has been obliged to take care of his place entirely out of the regular business hours. He hires no help, but is aided by the nimble fingers of two sons to do much of the light work. As already intimated, ten years have wrought a great change in his place. The apple-trees furnish him all the fruit he needs in Winter. He has pears, grapes, and berries, not only enough for his own use, but some for market. Within the last two years, his daughters have prevailed upon him to lay out a little wider space around the house to grass, and this they keep neatly cut and swept. They have also got a few flower beds, and trellises for vines; so that now, this is one of the most attractive cottages in the neighborhood.

A Hint in Grape Culture.

We noticed last September, in the grounds of a friend who is largely interested in grape-growing, that his Isabellas standing on level ground had not begun to color, while on one vine standing on a bank or terrace, the berries were ripening up finely. What means this? we asked our friend. He could only explain it by saying that originally this vine was as low as the others, and then matured its crop no earlier. But within the past two years, the ground had been graded and cut away near it, leaving this vine high and dry above the others, and since then it had become an earlier grape.

This afforded a good illustration of what we have often enjoined, viz.: the importance of drainage for grape growing, and we put it on record here for the benefit of others. Now, every man can not plant his vines on banks or terraces, but he can see to it that the subsoil of his vineyard has no standing water in it. In choosing a place for planting a grape, or a lot of grapes, by all means select a dry spot with a sunny, open aspect. And if there is any doubt about the dryness of the subsoil or if a wet soil must be used, give it a thorough draining. Free circulation of air, if the vine be sheltered, greatly promotes the ripening of early fruit.

Propagating Plants from Cuttings—Valuable Suggestions.

[This subject is daily becoming of more importance to all classes. A large number of plants are best propagated from slips or cuttings, while many improved varieties can only thus be propagated in purity. Every person who grows a tree or shrub, should understand, if he do not practice propagation.—At a recent conversational meeting of the Brooklyn Horticultural Society this subject was discussed at length. The remarks of Mr. A. S. FULLER were so valuable, and of such general application, that we requested a transcript of them for the *Agriculturist*. Mr. Fuller held, that to enlighten the general public on the processes of good nurserymen, as well as the "tricks" of dishonest ones, would, in the end, benefit reliable dealers, by preparing purchasers to appreciate well grown plants. We omit, for want of room, the first portion of the remarks.—ED.]

In propagating plants from cuttings we should bear in mind that there are other desirable objects besides the one of increasing the number. One of the most important is, to increase the vigor of the plant so that it shall produce better fruit or flowers, if possible, than its parent. This can only be done by a proper selection of the cutting, and a continued watchfulness from the start, never allowing the plant to become stunted at any period of its growth. One of the conditions of success is a proper selection and preparation of the soil; one of a sandy nature, moderately rich, is, perhaps, the best adapted for almost every description of cuttings. Where the soil is tenacious, sand should be applied in quantities sufficient to make it porous enough to allow the water to pass through it readily. And further, the soil should be pulverized at least eighteen inches deep;—not that a great variety of plants will not grow from cuttings without doing this, but they will succeed better if the soil is thoroughly and deeply manipulated.

Instead of mulching the cutting during the Summer for the purpose of keeping the soil moist, as sometimes recommended, we prefer stirring the surface of the soil with hoe or rake, at least once a week, or oftener if possible. This allows the air to penetrate the soil, carrying with it the moisture which is always present. From the many experiments which we have tried, we have uniformly met with better success when this plan was followed than when any kind of mulching was used.

The best time to make cuttings is in the Fall as soon as the wood is ripened. At this time a portion of the sap is in a semi-liquid state, and is descending, solidifying as it passes along, and depositing the last layer of woody fiber of the season. When a cutting, is properly treated, this woody fiber or alburnum slowly grows from the end of the cutting, and forms the callus, which in its turn changes to roots. If the cuttings are not taken off until they have been exposed to severe cold, all the alburnum has become hardened fiber, and then it becomes necessary for us to place the cuttings in a position where warmth and moisture will again partially liquify this before a callosity will form. As it takes more or less time, according to circumstances, for it to change a portion of its structure so as to form roots, it is better to give it plenty of time than force it, as we sometimes do.

There is another advantage in making cuttings in the Fall, which is, that we can have them rooted by the time vegetation starts in the Spring. It is a well known fact that roots will form at a much lower degree of temperature than leaves, therefore if cuttings are placed in the ground in the Fall, and its temperature kept a little above the freezing point, roots will be produced while the leaves will remain dormant. When the rise of the temperature commences in the Spring, these cuttings throw out roots (if they have not already done so) more readily than if but recently made; for the change has been gradually going on in transforming branches to roots, although to the eye it may not be apparent. Again, plants that are exposed to severe cold, lose much of their vitality, and, as before stated, the alburnum from which the roots spring becomes so hard that it emits roots very slowly, if at all; and sometimes we are compelled to put the cuttings for a time in water, as is often done with grape cuttings. This softens the alburnum again, which is necessary to form roots.

Sometimes it is not convenient to plant cuttings in the Fall, as the soil may not be prepared; in that case they may be tied up in small bundles and buried in the earth—either in the cellar or in some dry place in the garden. But it is better, as a general thing, to plant them in the Fall, and then cover sufficiently to keep out the frost, as with some varieties, like the quince, which emits roots from every portion of the bark, it is much better to place them where the soil can come in contact with every portion of the surface, thereby softening the outer bark and allowing the roots to protrude. With those varieties of plants which emit roots mostly from the severed part—or at the buds, it will make little difference whether the whole surface comes in contact with the soil during Winter, or only the lower ends; the latter will be the case, if carefully buried in bundles.

The first cuttings made in the Fall are generally from the currant, as it ripens its wood, in this latitude, by the middle of September; and as soon as ripe, the cuttings should be made. Take good, strong wood of the present season, and make the cuttings about six inches long, cutting them off smooth just at the base of a bud, square across. If you wish to prevent them from throwing up sprouts from under ground, cut out every eye or bud, excepting two or three at the upper end. Now draw a line across the bed which is to receive the cuttings, place the back of the spade to the line, press it into the soil nearly perpendicularly to the depth of six inches, and throw out the soil, making a trench in the shape of the letter V. Set the cuttings two inches apart along in this trench, with the upper end even with the surface, as the soil will settle enough during the Winter to expose the upper buds; put in a little soil, say enough to cover the base of the cutting one inch; then with the handle of the spade or a piece of plank press the soil firmly down to the base of the cuttings. The object of this is to exclude the air from the recently severed part and furnish it with a supply of moisture. Not that the cutting takes up any considerable quantity of water, yet it is necessary that this portion of the cutting should not become dry, for then a vacuum occurs, which will be filled with water and cause it to decay. Currant cuttings planted early often become rooted by the time Winter sets in, without making any leaves; and they will make twice as much growth the next season as they will if their planting is deferred until Spring.

Cuttings can be made of most kinds of shrubberry as soon as the wood is ripened and the leaves can be taken off without injury to the buds adjacent, and planted in the same manner as described for currants. Gooseberries may also be treated in the same way.

All the varieties of syringa, althea, Wiegelia, deutzia, viburnum or snowball, Forsythia, honeysuckle, spiræa, climbing, Bourbon, and hybrid perpetual roses grow readily, if cut before frozen.

In growing quinces from cuttings, one, two or three year old wood may be used; and we have found it extremely advantageous to pack the soil very firmly about the base of the cuttings, leaving it loose below the cutting and at the surface. Having grown many hundred thousands, we have always found our success (other things being equal) just in proportion to the care taken in making the soil firm about the base of the cuttings. Merely sticking them down, as is sometimes done, depending upon the rain to settle the soil, generally proves a total failure.

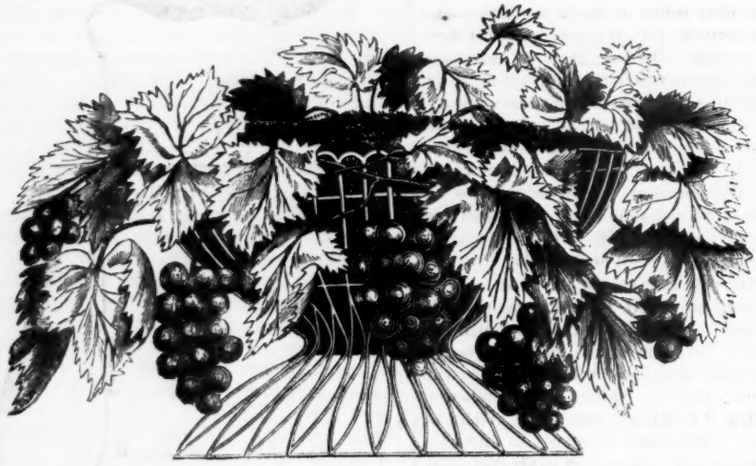
The method ordinarily pursued in making grape-cuttings, is to cut them into lengths of from one to two feet; but we think the short cuttings are preferable. We make them about six inches long, or with only two buds. But sometimes the buds are further apart, and in that case we have to make the cutting long enough to include the two buds if no more. If the buds are so near together that two will not give us a cutting four to six inches long, then make them with more than two. The cuttings should be made as soon as the wood is ripe, and either planted immediately or "heeled in" in some dry place in the garden or cellar. They should be planted at least six inches apart in the row, and the rows one to two feet apart. Set them perpendicular, leaving the upper bud even with, or a little below the surface; press the soil firmly about them, and attend to hoeing and keeping the soil loose between the rows during the Summer. Some varieties grow more readily from cuttings than others, but we have tried none of which a greater part will not grow if they receive proper attention.

There are some kinds of hardy plants and trees—like the Paulownia among trees, and the double flowering almond shrubs, and the raspberry and blackberry among small fruits—that do not grow from cuttings of the ripe wood, yet can be multiplied with great rapidity from pieces of the *roots* planted in any good rich garden soil.

Among the many theories advanced to explain why these variations occur, none are entirely satisfactory. Much practice becomes experience, and this is our only guide to success.

Wire Worms.

These pests, terribly severe on some land, and quite unknown on others, baffle the efforts of the most ingenious to work their destruction. They abound in light, moist land, in which inert vegetable matter is found, and attack, as most of us know by experience, roots of grass, grain, turnips, potatoes, etc., in all ages and conditions. The worm is the pupa of a small beetle, and lives, it is said, for *five years*, ever committing its depredations before it arrives at maturity, and assumes the form of the perfect insect. A writer in the "Scottish Farmer" makes the following interesting statement: "The late Mr. Pusey found that rape-cake had the effect of destroying large numbers of wire worms. He caused it to be broken into pieces of the size of beans, and to be sown over the land. The insects eat their way into the pieces of rape-cake, and whether from dying the death of gluttons, or being destroyed by its other qualities, he found numbers of dead wire worms imbedded in it." Rape-cake is an excellent manure, and may be applied at the rate of 5 to 7 cwt. per acre. This writer also recommends Peruvian guano applied in the Spring, alone or mixed with rape-cake, as a preventive, and esteems it of especial virtue, sowed with the seed of turnips and similar crops. The experiment may well be made to see if cotton-seed oil-cake will not answer the same purpose as rape-cake, which is difficult to obtain in this country.



Chamberlains's Mode of Growing Fruits and Plants in Baskets of Moss.

Considerable attention is being attracted to the experiments of Mr. Chamberlain, who proposes to grow not only ornamental plants, but even fruitful vines and trees, in baskets filled with moss and a small quantity of artificial soil. The engraving above is an exact representation of a basket of growing grapes recently presented to the lady of the Presidential Mansion, at Washington. The basket is about 30 inches across at the top. At a meeting of the Brooklyn Horticultural Society there was shown a peach tree in a 9-inch basket where it produced ten beautiful peaches; a grape vine with a dozen well formed clusters of good flavored fruit; strawberries in full bearing, as luxuriant as if in the open air; ripe pineapples, etc. At Mr. Miller's, 29 Broadway, may now be seen a variety of ornamental plants, with pineapples, strawberries, etc., all growing in baskets.—The main features of the process are: a plentiful supply of moss around and above the roots to retain moisture, and a comparatively small quantity of artificially prepared soil—consisting mainly, we believe, of powdered charcoal and ground bones. A patent has been taken out for portions of the process, which will somewhat interfere with its general introduction, though we presume Mr. C. will find it to his own interest to facilitate a wide adoption of this pleasing, if not practically useful mode of growing dwarf fruit trees, vines, and all kinds of ornamental plants.

A Sixty Dollar Green-House.

The articles on "Green-Houses for the People," published in last volume, have awakened a good deal of interest among many who have a taste for these structures, but who have hitherto supposed that the most limited green-house would cost $500 to $1000. We have many letters asking the lowest cost of the cheapest building that can be got up to answer the purpose. Well, just to demonstrate that green-houses are within the reach of a large class, we are now putting one up, which will be, in outside dimensions: 22 feet long, 12 feet wide, 9 feet high on one side, and 4 feet on the other, covered with 12 sashes, each 3½ by 6 feet. The work is mainly done at odd spells by two men, for whom we have little else to do at this season, so that their time is not reckoned. The outside expenses for materials, etc., we estimate at only about *sixty* dollars! We intended to give a full description and account of expenses, next month, but that will be too late for many inquirers, who wish to get up something similar, during this leisure month of January. So here is a brief description. (Fig. 1 is a skeleton, to show the construction of the parts—the posts, portions of the plates, rafters, siding, etc.)

First, a lot of refuse oak and chestnut logs were cut up into various lengths, and split into quarters. They were hewn somewhat straight on two sides, one side being made pretty true. These are set up in the ground firmly, like fence-posts. Seven on the rear or north side rise 9 feet above the ground, and seven others on the front or south side rise nearly 4 feet. The two posts on each end are of a hight to line with corner posts. These rough posts, set with the straight sides out, are furred out on the inner sides, by nailing on perpendicular strips, so as to make the thickness of the posts uniform, (about 10 inches), and also to give straight edges for boards. Matched boards are then nailed upon the outside and inside of the posts, except at *d*, which is left for a door. The boards are hemlock, 1 inch thick, 9 inches wide, 13 feet long, matched, and planed on one side. Thus planed and matched they cost 16 cents. each, delivered. The space between the outer and inner covering boards is filled with fine shavings, packed down. Charcoal, or saw-dust, or straw would answer, but we have chosen the shavings, because they cost next to nothing at the planing mill or joiner's shop. (Fig. 2 is a section of one side, showing two posts, with the manner of putting on the boards, and filling in the shavings, *before* putting on the plates.)

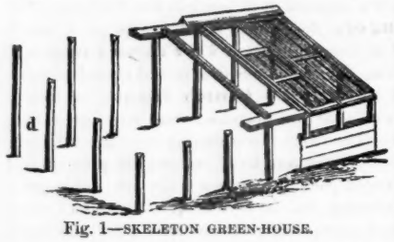


Fig. 1—SKELETON GREEN-HOUSE.

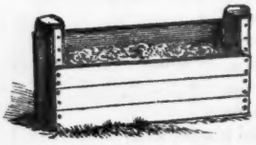


Fig. 2—SECTION OF WALL.

The tops of all the posts are sawed off true, and two plates laid upon the front and rear rows, and spiked down. Seven rafters are next laid on. These are 12½ feet long, and are cut in the form shown in the last September *Agriculturist*, fig. 3, page 273. This leaves places for six long sashes. We have each of the 12-feet sashes made in two parts, 6 feet long, and 3½ feet wide, the upper one to lap upon the lower one. The sashes are to be well made, and the whole (12) are contracted for at $33, including the glass well put in. The upper tier will be movable, and be held in place by cords, pulleys, and weights. A door hung at *d*, will complete the structure. The sashes are like Fig. 3, Sept. *Agriculturist*. These, and the boards and nails, are the chief outlay. As near as we can figure now, the cost of boards, plates, rafters, nails, and a coat of paint on the outside, will be about $25 to $27, making, with the $33 for 12 sashes, a total of about $60. (The items are: 90 boards, 16c. each = $14.40; 2 plates, 22 feet long, 3x10 inches, $1.37; 7 rafters, 3x4 inches, $1; door $1.75; hinges, latch, etc., $1; nails and spikes, $1; cord and pulleys, $1; painting, $3.50; sundries, $1 to $2.) Of course, if the labor was all hired, or we had other profitable work for our men, the cost would be somewhat greater. Many men, mechanics at least, can do all the work themselves. In the green-house here described, we shall, for heating only, use a common stove, and drain pipes, as described in November last, page 340. We hope these hints, taken in connection with what has been said in the last four numbers of the *Agriculturist*, will enable many of our readers to build themselves cheap green-houses, where more costly ones can not be afforded. We should have added, that the sashes we are providing, are just of suitable size and form to use on common cold frames and hot-beds, or on a small span-roof green-house, and they can thus be used for either purpose, when not needed for this green-house. Our cheap green-house can be examined by any one after the middle of January, when it will be finished and put to use. The inside measure will be 10 by 20 feet, giving an area or ground space of 200 square feet, and affording room for starting and growing many plants.

The Cheapest Fruit Gatherer Yet.

Recently a subscriber, N. G. Carnes, Riverdale, N. Y., brought to the office of the *Agriculturist* the cheapest fruit gatherer we have yet seen.

It is simply a narrow sheet of strong tin, bent to a circle, and the ends tacked to the end of a pole. The upper edge is cut with notches to pick the fruit, and a bag large enough to hold half a dozen or more fair-sized apples, is attached to the lower edge. The engraving represents the handle inserted in a tin tube which is soldered to the side of the apparatus, but this is not necessary. Any one can fit up this arrangement with a piece of old tin leader, a small strip of muslin, and a pole, at an expense of not over six cents, and it will be as effective as many implements of the sort costing ten or twenty times the amount. At least we judge so from the handling of the apparatus. The teeth or scolloped edges should be rounded, and filed smooth, to prevent their cutting the apples, pears, and peaches in careless handling.

THE HOUSEHOLD.

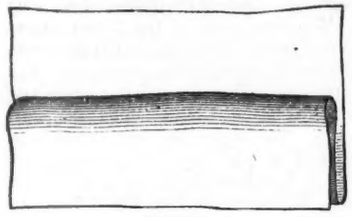


Fig. 1.

Impromptu Handkerchief Night-Cap.

Night-caps should be worn when sleeping in a draft of air, but not otherwise. A very good and effective head covering may be made in *half a minute* by any person obliged to sit or sleep in a draft of air in a room, or while traveling in cars, or elsewhere, if he have a fair size pocket handkerchief, or piece of cloth. *First*—Spread it flat and fold as shown in fig. 1; that is,

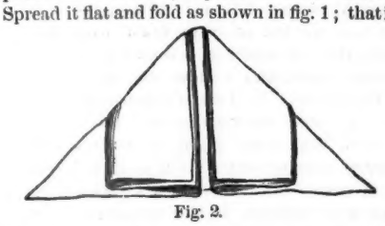


Fig. 2.

bring two edges together and then turn one edge back even with the fold. *Second*—Seize the folded part in the two hands, and turn the handkerchief directly over from you. Then bring the two upper corners over towards you as seen in fig. 2.

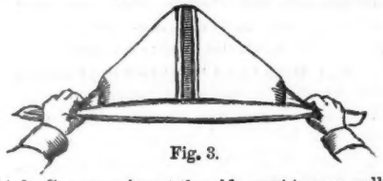


Fig. 3.

Third—Commencing at the side next to you, roll up the edge, as in fig. 3, so as to bring in and fasten the two ends of the fold. *Fourth*—Raise the hands up, and a bagging portion will drop down, which is to be placed over the forehead. Bring the rolled part back over the head and around the neck, tying under the chin, as seen in fig. 4.—Our artist seems to have caught sight of one of the "Zouave" soldiers in the Park Barracks, while making the sketch. Or more probably he wished especially to attract the attention of soldiers, for they of all others will find this a most convenient arrangement.—N. B. The *Agriculturist* claims no patent on this night-cap—it is free to all the world, and to the "rest of mankind."

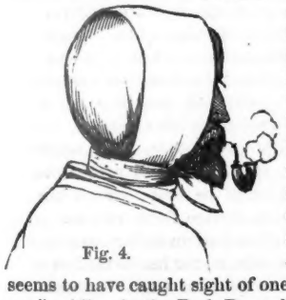


Fig. 4.

Knitting Mittens with one Finger.

The direction for knitting socks published in the December *Agriculturist* are proving of great interest and value. We already hear of knitting circles started in various parts of the country, originated wholly from seeing our article and illustration. One subscriber informs us that he saw over thirty ladies at work knitting socks the other evening, with the *Agriculturist* before them as a guide. We are glad to hear thus much, and therefore take the more pleasure in now presenting directions for knitting MITTENS. Gloves, though convenient for working and driving, are very cold, as the fingers, when kept isolated, do not help keep each other warm. Still it is quite essential to have the free use of one finger in almost all kinds of work; and this is indispensable for soldiers in handling and using their fire-arms, during cold weather.

DIRECTIONS.—We present herewith (fig. 1) an engraving just **half the size** for an ordinary mitten. **Yarn.**—For Army Mittens, grey or blue mixed yarn, No. 20, or coarser, is recommended, though any color but white will do. They may be knitted or crotcheted. **Knitting Needles.** No. 15 are about the right size.—**Weight,** 3 ounces at least.—**Length,** 11 to 11½ inches.—**Width** over palm of hand 4¼ to 4½ inches.—**Wrist,** or **Cuff.** Put 22 stitches on each needle, of No. 20 yarn, or more or less if the yarn be finer or coarser than No. 20. Rib 2 to 2½ inches for length of wrist or cuff.—**Thumb.** Begin the thumb at *A*, by making 2 stitches for seams, and widen 2 between seams, every four times round, until you have 20.—At *B*, drop 20 *thumb* stitches, and cast on 8 *new* stitches to increase width of hand.—**To Finish Thumb,** take up the 20 stitches dropped at *B*, and add 8 new stitches.—**Finger.** At *C*, drop 16 stitches for finger, and cast on 8 new stitches.—**To Finish Finger,** take up the 16 stitches dropped at C, and add 8 new stitches.—**To Finish Hand,** begin to narrow at D, but keep the width well up to the end.—The exact directions for finishing off the thumb, finger, and hand, we can not give. Our engraved pattern will be a sufficient guide, remembering that it is *just half of the average size.*

Any person desiring a pattern of full size can receive one free of charge by addressing John J. Hinchman & Co., at 26 Vesey-st., N. Y. City, to whom we are indebted for the directions.

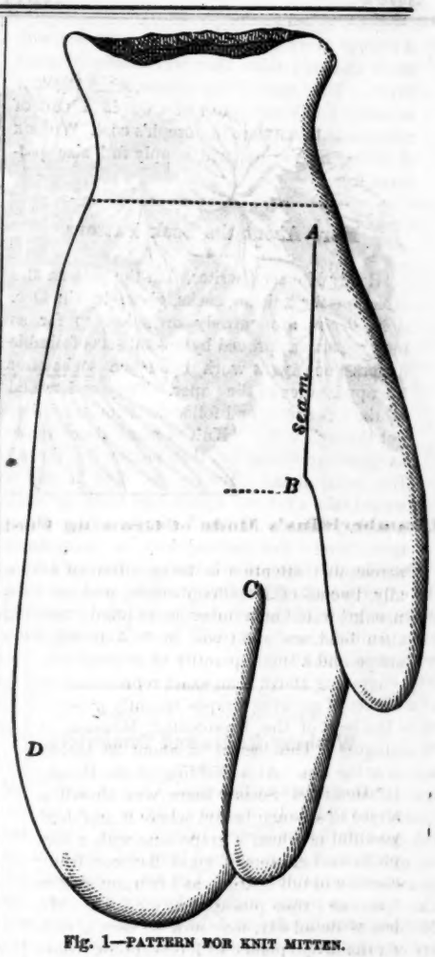


Fig. 1—PATTERN FOR KNIT MITTEN.

Cloth Mittens with one Finger.

These are very easily and cheaply made, and answer an excellent purpose. With a hand needle a woman can make up a dozen pairs or more in a day, and with the aid of a sewing machine the number may be more than quadrupled. The cost of making is so little that it pays to use up even old cloth—the skirts and back of a coat, the wider portions of pantaloons etc. We have from the Office of the Willcox & Gibbs' Sewing Machine Co., a full-size pattern, which we have *reduced exactly one-fourth.* Only two pieces of cloth are required, though the cloth, if too small, may be pieced out before cutting. Cut the larger piece like Fig. 2. When folded over from the dotted line, *a* matches *a*, and *f* upon *f* forms the cot for the forefinger. The semicircular piece, *t*, is cut so far as marked, and then turned up against the inside of the thumb, giving a double thickness just where most used. Fig. 3, is a pattern for the thumb.

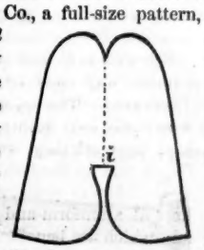


Fig. 3—THUMB PATTERN FOR CLOTH MITTENS.

DIRECTIONS.—First sew the round piece (*t*) on to the outside of thumb (at *t*); then close up the thumb on the back, and fit it to its place (in *t*,) where it must be firmly stitched. Next close the side and finger by stitching around. The directions before us advise to leave the edges of cloth *outside* as they shield the sewing, while this secures a better fit. It will not look so neatly, though the appearance is not of much account. The folding is to be one way for the right-hand, and the other way for the left-hand mitten A little practice with paper, and then with any cheap cloth, or common brown muslin, will enable any one to get a very neat pattern

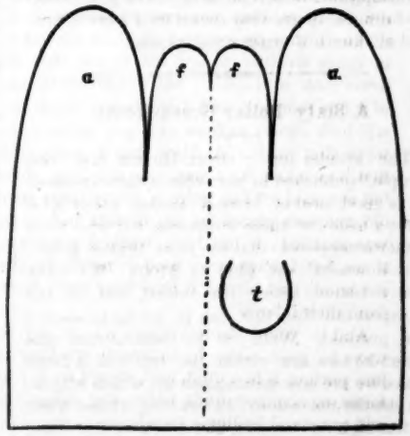


Fig. 2—PATTERN FOR CLOTH MITTEN.

in an hour or two. Half a million pairs would doubtless be welcomed by the soldiers who are handling cold weapons in this chilly weather. If our girls will get up plenty of these mittens for their fathers and brothers, so that they can have

a change every time their mittens get wet with snow and cold rains, they will confer a great favor. They may, if they please, stitch together as many kinds and colors of cloth in a pair of mittens, as there were in Joseph's coat. Willcox & Gibbs, N. Y. City, will supply full size patterns free.

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"Ready Knitter" writes, that the pattern and directions for knitting socks, given in the Dec. *Agriculturist*, are entirely orthodox, so far as they go, as was proved by several sets of nimble fingers she saw at work upon the socks after the appearance of the paper. They understood all the directions, and followed them until they got through with: "Knit as many times across as there are stitches on, then narrow five times." But what then? Surely, not bind it off; it would take a veteran square heel to fill out such a sock. "Ready Knitter" completes the directions thus: "For the heel, knit as many times across, as there are stitches on; narrow gradually, two stitches on every needle, (not the seam needle,) until the number is reduced one-half; then bind, and you will have a round, well-shaped heel."

For the American Agriculturist.

Washing Quilts and Comforters.

"Don't look at this quilt, I beg of you," said an invalid lady the other day, as my eyes involuntarily wandered over a once handsome patchwork quilt, spotted here and there in an unaccountable way. "You see," she continued, "it was nearly night before we wet it on the last washing day, and the girl rubbed some soap on the dirty spots, and put it in the suds, and then forgot it until morning."

Now, if there is anything needed to drive a woman crazy, it is to see a pretty quilt, that she has worked at for days and months, and prided herself on, spoiled in the wash.

Every good housekeeper has her bed clothes washed in the morning, so that they may have the benefit of the whole day to dry, and then there is no danger of their being forgotten over night. Handsome calico quilts are generally supposed to have deep red, green, or orange colors in them, that contrast so well with the white; if they lie wet over night, or are left out in frosty weather to dry, ten to one, they will never look well again; but if hurried through of a fine morning, and dried before night, they will look almost as fresh and new as they were when first made. A friend has a pretty quilt that was taken for a new one not long since, but she said: "The quilt is thirty-three years old, and was pieced by my mother before she was married; it has been washed a score of times, but I have never used it much because the hands that pieced it have long since rested from their labors."

And to young housekeepers let me say, always *try* your calico by thorough washing before putting it in a quilt, and, except for a comforter or common quilt, never use calico that will not stand boiling.

I believe in pretty quilts, and think they are an important feature in the beauty of the house, just as much as wall paper, painting, or pictures. For a spare bed-room, or "stranger's room," I remember a mother that always used a white Marseilles for the top quilt, and it was the most simple and elegant. In common bed-rooms, a calico quilt looks clean longer, is less expensive, and answers the purpose equally well.

And now a word as to comforters. I think they are the most expensive bedding people use, though they come the cheapest. What housekeeper does not look back this snowy day to her Fall washing of bed clothes, and think of the sigh of relief she heaved when through with it; and the *comforters*, she dreaded them more than all the quilts and blankets together. There are fine lamb's wool blankets in my house to-day that have been in wear half as long as I have myself; they have worn out several sets of comforters, and have been far more *comfortable* and certainly cheaper and cleaner. It is impossible for a woman to get a comforter right clean, except by ripping it out, washing the batting, and making it over; and this is one hard day's work for the best hired girl she ever had.

The fact is, we dread the washing of our comforters so much, that where we wash our blankets and quilts twice, we only wash the comforters once, though they need washing the most, from the fact that they hold, in their thick folds, more of the perspiration and impurities that escape from our bodies during sleep.

Carroll Co., Ill. MRS. M. J. STEPHENSON.

Double Glazing vs. Double Windows.

As usually constructed, double windows interfere with ventilation of living rooms, for seldom indeed is there other provision for a supply of fresh air. Now instead of using double sashes, if we simply put in double pieces of glass (one on the outside and one on the inside of the same sash) we may raise the sashes as usual. Two thicknesses of glass with the quarter inch space of air between them will keep out a great deal of cold and save fuel. At the same time the rooms will be likely to become warm while the air is still pure, and the result will be, that in order to cool them a sash will be lowered, and thus a supply of pure air maintained. When a single thickness of glass is all that defends us against the temperature of zero, which prevails without, the air of the room is so rapidly cooled that admission of fresh air is prevented by all possible means. The windows are "calked," the doors are "listed," and every thing made as close as possible. By having the windows double glazed, the obstruction of the view by the accumulation of frost is nearly if not entirely prevented.

A Cellar.

Whoever is at housekeeping, even in the most humble way, will appreciate a good cellar. There are multitudes, nominally keeping house, who really have nothing to do with housekeeping; these are they who build fine houses, and follow and set the fashions in such things. We need cellars to preserve things which must be kept at a uniform and rather low temperature, and which are benefited, or at least not injured, by moist air. The cellar should always be cool, moist, dry, rat-proof, well ventilated, and light or dark at pleasure. To secure these qualities it should be below the surface of the ground, with cemented walls and floor; if in wet ground, the water should be cut off by drains in the foundations, and the floor should have slope enough to carry off into side drains water spilt upon or used for washing it.

Cellars are often dry in Winter and moist in Summer, because, as the season changes, they are either warmer or cooler than the outer air, and so part with or attract moisture. On this account, ventilate cellars on moist, warm days in Winter. The introduction of hot-air furnaces into cellars to warm the rest of the house, has the effect direfully to warm and dry the cellars, and entirely ruin them for keeping vegetables, fruits, cider, etc.; and the modern fashion of basement rooms and cellar kitchens which is prevailing to some extent even for country houses, is equally ruinous. If a cellar kitchen is desirable, dig a cellar beneath it.

WHAT MAY BE KEPT IN A GOOD CELLAR.

1st. *Fruits*—particularly apples.

2nd. *Roots*—potatoes, turnips, carrots, parsneps, beets, salsafy, etc., the most sensitive of which, if packed in earth, will scarcely grow at all until near Spring, and will not shrivel a particle.

3d. *Growing Plants.*—Cabbages, cauliflowers, and broccoli, which will gradually head and come to perfection during the early part of Winter; celery, which grows and bleaches as it never does out of doors; endives, which, taken in and planted in beds, grow without care, beautifully blanched, and form a most delicious winter salad; and to these may be added leeks, chives, parsley, and many other plants.

4th. Cider, wines, bottled fruits, etc.

5th. Many tender plants, which will not bear our winters, as for instance, all tender roses, pelargoniums and geraniums, oleanders, lemon-scented verbenas, jessamines, *Daphne odorata*, etc. All these, and yet we have hardly begun to tell the uses of a cellar, never wet, never dry, never warm, never cold, never airy, never close, and dark or light at pleasure. We regard such a cellar as indispensable to economical housekeeping, but as a *luxury* is it not worth enjoying?

For the American Agriculturist.

Rat Proof and Water Tight Cellars.

In the foundation of the cellar wall, it is often and wisely recommended to lay a course of flat stones below the surface of the cellar floor, projecting four or five inches beyond the rest. If rats dig under the foundation from the outside, to come up on the inside, they will strike their noses against this projecting ledge, and supposing the whole floor to be made of quarry stones, they will back down and give up. This will answer in most cases; but to make sure work of it, and besides to get a dry and smooth cellar floor, it is advisable to cover the whole cellar bottom with water lime cement.

And this is the way to do it. If the house is already built, and the cellar is rather low between joints, it will be best to excavate and deepen the whole surface three or four inches. Having made a new smooth surface, sloping a little towards one corner, for the benefit of drainage, bring in a load or two of small cobble-stones, say of goose-egg size, and spread them evenly over the ground. Then put on a layer of coarse gravel and rake it down smooth, preserving, carefully, the slight descent to one corner, where there is to be kept an open outlet into the cellar drain.

Now prepare the cement, a little at a time, using the best of materials, and mixing two parts of hydraulic lime with three parts of clean sand. Spread it on about two inches thick, as soon as mixed, leaving the work finished smooth as you proceed. At the sides of the cellar, plaster up the walls eighteen inches from the floor. Make a shallow gutter in the cement all around next to the walls, to carry off any water that may chance to get on the floor. This gut-

ter is to terminate in the lowest corner of the cellar. At that point, a round hole (say two inches in diameter,) is to be made through the cement, and leading into the cellar drain. This hole is to be kept plugged tight (rat and mouse proof,) except when it may be needful to draw it for letting off surface water. Or better, it may be protected with a wire screen, or close iron grating to shut out the entrance of vermin.

In a month or six weeks, this plaster will be hard enough to bear walking upon; but at first, it is best to lay down a few boards. In two or three months the floor will be as hard as a rock. It can then be swept and scrubbed as often as one may desire. Rats and mice can not dig through it. Water from beneath will not penetrate it. It will be a daily and perpetual help to good housekeeping. X.

REMARKS.—(1) It strikes us that it is nonsensical to suppose rats will calculate the thickness of the wall, and give up in disappointment if it prove to be six inches wider at the bottom than above. (2) A smooth solid cement floor as recommended, is excellent every way, and contributes to neatness, purity of air, and the good keeping of vegetables. Wherever hydraulic lime is accessible, it is advisable to use it. The layer of cobble stones adds to the solidity and firmness of the bottom, but it adds to the expense also, and is not indispensable. We have seen many good cellar floors made by simply plastering with hydraulic cement directly upon the ground. (3) We have found by experience that a coat of cement, however good and thick upon the walls, will not keep water from breaking through, if the ground around be wet and springy. A drain outside the walls is the only help under such circumstances. The best protection against rats is to bed the bottom course of stone in cement, and have some of the cement below and behind the lowest tier of stones. A grouting or thin mixture of hydraulic lime, poured in among the loose earth behind the wall, will render it rat-proof.—ED.]

Moist air in Dwellings.

Who does not enjoy the summer-like air of a green-house, or well kept conservatory? It is so refreshing because it contains an abundant supply of moisture. We may secure an atmosphere very like this in our houses, if we will only make provision for free evaporation of water upon the stoves or in the hot-air furnaces by which they are warmed. Few people who keep water thus evaporating provide enough of it, and the result is, they do not realize any great benefit. In rooms, the air of which is properly moist, almost all common green-house plants will thrive, and we may have the fragrance of flowers in addition to the pleasant and healthful moisture.

Sea Weed Blankets for Dwellings.

M. E. Legou, in a recent report to the Paris Academy of Sciences, advocates the use of sea-weed between the thin outside walls of houses, for protection against sudden changes of temperature. This substance when not exposed to the light is unchangeable, does not ferment, will not readily take fire, and is entirely free from insects. Nothing is needed to prepare it, but a washing in fresh water to remove the salt, which would otherwise cause dampness. It has already been successfully applied between the tiles and ceiling of a railway station, in a portable house for camp use, and in the enclosures of temporary barracks. It is easily obtained along our whole coast, and may prove of important service in rendering the cheaper class of dwellings more comfortable.

Age of Meats.

We do not mean from the birth, but from the butcher. The Englishman would insist upon having his *beef* at least a week old, if the weather be not especially hot; his *mutton* not less than a month old; and other meats of such age as he has found them most savory to *his* taste. People of other nations think that meats require time—some more, others less—to come into their best condition for the table. In this country there is much more dread of *tainted* than of *tough* meats. While shunning Scilla, we have approached too near Charybdis. We often butcher in the evening and devour in the morning; and sometimes eat for breakfast that which was killed at sunrise. Except in case of necessity, this is not wise. Meats do not come into that condition in which they are most readily assimilated, and most nourishing, until some time after slaughtering—longer in cold than in warm weather, and longer with some kinds than with others, at the same season. Until then, they are tough, and although "there is no disputing of tastes," it must be admitted that they are, to a large majority of persons who have fairly made the comparison, less tasteful, if not absolutely unsavory.

For the American Agriculturist.

Rolled up Beef.

Cut pieces of beef, about as broad as a hand and ½ inch thick, pound well, and add pepper and salt. Cut slices of bacon of the same size as the beef, roll the slices together, and tie them with a string. Boil with water enough to cover the meat; keep in a pot well closed. When the beef is tender, take it out, and also half the liquor; let the other half boil down, and then add the first half to it. Season with onions and salt to taste. Cut the strings off the beef and put on the table with the gravy. If to be used on the second day, boil it up again, cutting a pickle in the sauce, and it will be just as good. If to be kept for a time, put it in a dish and cover with fat. It will keep good for several weeks. MRS. NITZ.

Jefferson Co., Iowa.

How to Cook Eggs in the Shell.

A correspondent of the *Agriculturist* writes: "One way to cook eggs is to drop them into boiling water, and let them remain there three minutes—the water all the time boiling. This hardens the white next the shell to almost leathery toughness, while within it is still uncooked. Another and preferable mode is, to pour boiling water upon the eggs; let them stand in this 5 minutes; pour off this and add more boiling water and immediately bring them to the table *in the water*. Those taken out at once will be somewhat cooked through; and those left in five minutes will be "hard boiled," or nearly so, and thus the taste of every one may be suited and no toughness of the whites be observed."

PENNY WISE, POUND FOOLISH.—Undigested food in the stomach is sure to produce restless unrefreshing sleep, yet for the mere pleasure of tickling the palate for a few minutes longer while swallowing a little more food, how many suffer all night, and the next day also.

Cooking Indian Corn.

It may be well to state briefly here, what was more fully explained in last volume, viz.: that taking the average prices throughout the country, 40 cents worth of Indian corn meal, affords as much real, healthful *nourishment*, as $1 worth of wheat flour, or $1.60 worth of potatoes. Hence the importance of learning to use more corn for food in these times. In the November *Agriculturist* we gave thirty-three methods of using corn, or corn meal. An objection to many of the directions given, was that they called for considerable quantities of milk, or eggs, or both, and these are not always accessible or cheap. We hope our offered premiums will bring out something valuable on this subject. But this inside sheet must be sent to press before the exhibition opens, and our report, if published this month, must go in out of place on the outside sheet, which is sent to press ten days later. In the meantime, we desire to solicit further contributions of recipes or directions on this topic. Here are a few of those, gathered from our letter files.

Indian Loaves, *that will be good when four days old.* Sent to the *American Agriculturist* by Mrs. L. G. Smith of Essex Co., Vt. Take 2 quarts of Indian meal; 1 pint of sifted wheat bran; ½ tea-cupful of molasses; ½ teaspoonful each of salt and cooking soda or saleratus. Mix with sweet milk enough to make a batter as stiff as can be readily stirred with an iron spoon. Bake 6 hours.

Another Indian Loaf.—Contributed to the *Agriculturist* by Sarah Fuson of Fulton County, Ill. who has tested it satisfactorily for ten years past. Take 4 to 6 quarts of Indian meal and scald two thirds of it, stirring thoroughly with an iron spoon; cool with cold water until it will not cook the yeast, and add one pint good salt yeast. Stir in the remainder of the meal; put in a pan to rise, the same as light wheat bread, and afterwards bake well, and keep in a cool, dry place. Good when one to four days old.

Corn Meal Griddle Cakes.—J. S. Gerver, Williams Co., O., contributes the following to the *Agriculturist:* Take 3 cups of Corn meal, 1 cup of wheat flour; 1 cup of sour cream; 1 cup of sugar; 3 eggs; 1 teaspoonful of saleratus, and 1 teaspoonful of salt, with sweet milk enough to make a thin batter. Bake the same as Buckwheat cakes. It is good. [This must be very good when the eggs and cream are plentiful.—ED.]

Chicken Salad.

A friend who tried a chicken salad with us the other day, asked a minute description in the *Agriculturist* for the benefit of his better half and others. The recipe is a common one, for ought we know—perhaps it was used with special skill in the instance when our friend was so well pleased. Written minutely it reads thus: Mince finely the white parts of one chicken previously well boiled. Take blanched, crisp celery and chop very fine. With 1 measure of the minced chicken, mix 1½ measures of the chopped celery. Boil hard one large or two small eggs, roll the yolk fine, and mixing in a teaspoonful of mustard, and nearly as much salt, with ½ teacupful of vinegar, pour this over the chicken. Cut the boiled whites of the eggs in rings and lay on top, garnishing also with the smaller leaves of the celery.—Usually the celery is not chopped half fine enough.

Apple Pie without Apples.

One cup of water, one cup sugar, juice and peel of one lemon, 1½ or 2 Boston crackers broken into small pieces; bake with under and upper crust. The pieces of cracker look like apple when the pie is baked. The addition of a little stewed apple makes the deception complete—to eye and taste.

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For the American Agriculturist.

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Every good housekeeper has her bed clothes washed in the morning, so that they may have the benefit of the whole day to dry, and then there is no danger of their being forgotten over night. Handsome calico quilts are generally supposed to have deep red, green, or orange colors in them, that contrast so well with the white; if they lie wet over night, or are left out in frosty weather to dry, ten to one, they will never look well again; but if hurried through of a fine morning, and dried before night, they will look almost as fresh and new as they were when first made. A friend has a pretty quilt that was taken for a new one not long since, but she said: "The quilt is thirty-three years old, and was pieced by my mother before she was married; it has been washed a score of times, but I have never used it much because the hands that pieced it have long since rested from their labors."

And to young housekeepers let me say, always *try* your calico by thorough washing before putting it in a quilt, and, except for a comforter or common quilt, never use calico that will not stand boiling.

I believe in pretty quilts, and think they are an important feature in the beauty of the house, just as much as wall paper, painting, or pictures. For a spare bed-room, or "stranger's room," I remember a mother that always used a white Marseilles for the top quilt, and it was the most simple and elegant. In common bed-rooms, a calico quilt looks clean longer, is less expensive, and answers the purpose equally well.

And now a word as to comforters. I think they are the most expensive bedding people use, though they come the cheapest. What housekeeper does not look back this snowy day to her Fall washing of bed clothes, and think of the sigh of relief she heaved when through with it; and the *comforters*, she dreaded them more than all the quilts and blankets together. There are fine lamb's wool blankets in my house to-day that have been in wear half as long as I have myself; they have worn out several sets of comforters, and have been far more *comfortable* and certainly cheaper and cleaner. It is impossible for a woman to get a comforter right clean, except by ripping it out, washing the batting, and making it over; and this is one hard day's work for the best hired girl she ever had.

The fact is, we dread the washing of our comforters so much, that where we wash our blankets and quilts twice, we only wash the comforters once, though they need washing the most, from the fact that they hold, in their thick folds, more of the perspiration and impurities that escape from our bodies during sleep.

Carroll Co., Ill. MRS. M. J. STEPHENSON.

Double Glazing vs. Double Windows.

As usually constructed, double windows interfere with ventilation of living rooms, for seldom indeed is there other provision for a supply of fresh air. Now instead of using double sashes, if we simply put in double pieces of glass (one on the outside and one on the inside of the same sash) we may raise the sashes as usual. Two thicknesses of glass with the quarter inch space of air between them will keep out a great deal of cold and save fuel. At the same time the rooms will be likely to become warm while the air is still pure, and the result will be, that in order to cool them a sash will be lowered, and thus a supply of pure air maintained. When a single thickness of glass is all that defends us against the temperature of zero, which prevails without, the air of the room is so rapidly cooled that admission of fresh air is prevented by all possible means. The windows are "calked," the doors are "listed," and every thing made as close as possible. By having the windows double glazed, the obstruction of the view by the accumulation of frost is nearly if not entirely prevented.

A Cellar.

Whoever is at housekeeping, even in the most humble way, will appreciate a good cellar. There are multitudes, nominally keeping house, who really have nothing to do with housekeeping; these are they who build fine houses, and follow and set the fashions in such things. We need cellars to preserve things which must be kept at a uniform and rather low temperature, and which are benefited, or at least not injured, by moist air. The cellar should always be cool, moist, dry, rat-proof, well ventilated, and light or dark at pleasure. To secure these qualities it should be below the surface of the ground, with cemented walls and floor; if in wet ground, the water should be cut off by drains in the foundations, and the floor should have slope enough to carry off into side drains water spilt upon or used for washing it.

Cellars are often dry in Winter and moist in Summer, because, as the season changes, they are either warmer or cooler than the outer air, and so part with or attract moisture. On this account, ventilate cellars on moist, warm days in Winter. The introduction of hot-air furnaces into cellars to warm the rest of the house, has the effect direfully to warm and dry the cellars, and entirely ruin them for keeping vegetables, fruits, cider, etc.; and the modern fashion of basement rooms and cellar kitchens which is prevailing to some extent even for country houses, is equally ruinous. If a cellar kitchen is desirable, dig a cellar beneath it.

WHAT MAY BE KEPT IN A GOOD CELLAR.

1st. *Fruits*—particularly apples.

2nd. *Roots*—potatoes, turnips, carrots, parsneps, beets, salsafy, etc., the most sensitive of which, if packed in earth, will scarcely grow at all until near Spring, and will not shrivel a particle.

3d. *Growing Plants.*—Cabbages, cauliflowers, and broccoli, which will gradually head and come to perfection during the early part of Winter; celery, which grows and bleaches as it never does out of doors; endives, which, taken in and planted in beds, grow without care, beautifully blanched, and form a most delicious winter salad; and to these may be added leeks, chives, parsley, and many other plants.

4th. Cider, wines, bottled fruits, etc.

5th. Many tender plants, which will not bear our winters, as for instance, all tender roses, pelargoniums and geraniums, oleanders, lemon-scented verbenas, jessamines, *Daphne odorata*, etc. All these, and yet we have hardly begun to tell the uses of a cellar, never wet, never dry, never warm, never cold, never airy, never close, and dark or light at pleasure. We regard such a cellar as indispensable to economical housekeeping, but as a *luxury* is it not worth enjoying?

For the American Agriculturist.

Rat Proof and Water Tight Cellars.

In the foundation of the cellar wall, it is often and wisely recommended to lay a course of flat stones below the surface of the cellar floor, projecting four or five inches beyond the rest. If rats dig under the foundation from the outside, to come up on the inside, they will strike their noses against this projecting ledge, and supposing the whole floor to be made of quarry stones, they will back down and give up. This will answer in most cases; but to make sure work of it, and besides to get a dry and smooth cellar floor, it is advisable to cover the whole cellar bottom with water lime cement.

And this is the way to do it. If the house is already built, and the cellar is rather low between joints, it will be best to excavate and deepen the whole surface three or four inches. Having made a new smooth surface, sloping a little towards one corner, for the benefit of drainage, bring in a load or two of small cobble-stones, say of goose-egg size, and spread them evenly over the ground. Then put on a layer of coarse gravel and rake it down smooth, preserving, carefully, the slight descent to one corner, where there is to be kept an open outlet into the cellar drain.

Now prepare the cement, a little at a time, using the best of materials, and mixing two parts of hydraulic lime with three parts of clean sand. Spread it on about two inches thick, as soon as mixed, leaving the work finished smooth as you proceed. At the sides of the cellar, plaster up the walls eighteen inches from the floor. Make a shallow gutter in the cement all around next to the walls, to carry off any water that may chance to get on the floor. This gut-

ter is to terminate in the lowest corner of the cellar. At that point, a round hole (say two inches in diameter,) is to be made through the cement, and leading into the cellar drain. This hole is to be kept plugged tight (rat and mouse proof,) except when it may be needful to draw it for letting off surface water. Or better, it may be protected with a wire screen, or close iron grating to shut out the entrance of vermin.

In a month or six weeks, this plaster will be hard enough to bear walking upon; but at first, it is best to lay down a few boards. In two or three months the floor will be as hard as a rock. It can then be swept and scrubbed as often as one may desire. Rats and mice can not dig through it. Water from beneath will not penetrate it. It will be a daily and perpetual help to good housekeeping. X.

REMARKS.—(1) It strikes us that it is nonsensical to suppose rats will calculate the thickness of the wall, and give up in disappointment if it prove to be six inches wider at the bottom than above. (2) A smooth solid cement floor as recommended, is excellent every way, and contributes to neatness, purity of air, and the good keeping of vegetables. Wherever hydraulic lime is accessible, it is advisable to use it. The layer of cobble stones adds to the solidity and firmness of the bottom, but it adds to the expense also, and is not indispensable. We have seen many good cellar floors made by simply plastering with hydraulic cement directly upon the ground. (3) We have found by experience that a coat of cement, however good and thick upon the walls, will not keep water from breaking through, if the ground around be wet and springy. A drain outside the walls is the only help under such circumstances. The best protection against rats is to bed the bottom course of stone in cement, and have some of the cement below and behind the lowest tier of stones. A grouting or thin mixture of hydraulic lime, poured in among the loose earth behind the wall, will render it rat-proof.—ED.]

Moist air in Dwellings.

Who does not enjoy the summer-like air of a green-house, or well kept conservatory? It is so refreshing because it contains an abundant supply of moisture. We may secure an atmosphere very like this in our houses, if we will only make provision for free evaporation of water upon the stoves or in the hot-air furnaces by which they are warmed. Few people who keep water thus evaporating provide enough of it, and the result is, they do not realize any great benefit. In rooms, the air of which is properly moist, almost all common green-house plants will thrive, and we may have the fragrance of flowers in addition to the pleasant and healthful moisture.

Sea Weed Blankets for Dwellings.

M. E. Legou, in a recent report to the Paris Academy of Sciences, advocates the use of sea-weed between the thin outside walls of houses, for protection against sudden changes of temperature. This substance when not exposed to the light is unchangeable, does not ferment, will not readily take fire, and is entirely free from insects. Nothing is needed to prepare it, but a washing in fresh water to remove the salt, which would otherwise cause dampness. It has already been successfully applied between the tiles and ceiling of a railway station, in a portable house for camp use, and in the enclosures of temporary barracks. It is easily obtained along our whole coast, and may prove of important service in rendering the cheaper class of dwellings more comfortable.

Age of Meats.

We do not mean from the birth, but from the butcher. The Englishman would insist upon having his *beef* at least a week old, if the weather be not especially hot; his *mutton* not less than a month old; and other meats of such age as he has found them most savory to *his* taste. People of other nations think that meats require time—some more, others less—to come into their best condition for the table. In this country there is much more dread of *tainted* than of *tough* meats. While shunning Scilla, we have approached too near Charybdis. We often butcher in the evening and devour in the morning; and sometimes eat for breakfast that which was killed at sunrise. Except in case of necessity, this is not wise. Meats do not come into that condition in which they are most readily assimilated, and most nourishing, until some time after slaughtering—longer in cold than in warm weather, and longer with some kinds than with others, at the same season. Until then, they are tough, and although "there is no disputing of tastes," it must be admitted that they are, to a large majority of persons who have fairly made the comparison, less tasteful, if not absolutely unsavory.

For the American Agriculturist.

Rolled up Beef.

Cut pieces of beef, about as broad as a hand and ¾ inch thick, pound well, and add pepper and salt. Cut slices of bacon of the same size as the beef, roll the slices together, and tie them with a string. Boil with water enough to cover the meat; keep in a pot well closed. When the beef is tender, take it out, and also half the liquor; let the other half boil down, and then add the first half to it. Season with onions and salt to taste. Cut the strings off the beef and put on the table with the gravy. If to be used on the second day, boil it up again, cutting a pickle in the sauce, and it will be just as good. If to be kept for a time, put it in a dish and cover with fat. It will keep good for several weeks. MRS. NITZ.

Jefferson Co., Iowa.

How to Cook Eggs in the Shell.

A correspondent of the *Agriculturist* writes: "One way to cook eggs is to drop them into boiling water, and let them remain there three minutes—the water all the time boiling. This hardens the white next the shell to almost leathery toughness, while within it is still uncooked. Another and preferable mode is, to pour boiling water upon the eggs; let them stand in this 5 minutes; pour off this and add more boiling water and immediately bring them to the table *in the water*. Those taken out at once will be somewhat cooked through; and those left in five minutes will be "hard boiled," or nearly so, and thus the taste of every one may be suited and no toughness of the whites be observed."

PENNY WISE, POUND FOOLISH.—Undigested food in the stomach is sure to produce restless unrefreshing sleep, yet for the mere pleasure of tickling the palate for a few minutes longer while swallowing a little more food, how many suffer all night, and the next day also.

Cooking Indian Corn.

It may be well to state briefly here, what was more fully explained in last volume, viz.: that taking the average prices throughout the country, 40 cents worth of Indian corn meal, affords as much real, healthful *nourishment*, as $1 worth of wheat flour, or $1.60 worth of potatoes. Hence the importance of learning to use more corn for food in these times. In the November *Agriculturist* we gave thirty-three methods of using corn, or corn meal. An objection to many of the directions given, was that they called for considerable quantities of milk, or eggs, or both, and these are not always accessible or cheap. We hope our offered premiums will bring out something valuable on this subject. But this inside sheet must be sent to press before the exhibition opens, and our report, if published this month, must go in out of place on the outside sheet, which is sent to press ten days later. In the meantime, we desire to solicit further contributions of recipes or directions on this topic. Here are a few of those, gathered from our letter files.

Indian Loaves, *that will be good when four days old.* Sent to the *American Agriculturist* by Mrs. L. G. Smith of Essex Co., Vt. Take 2 quarts of Indian meal; 1 pint of sifted wheat bran; ½ tea-cupful of molasses; ½ teaspoonful each of salt and cooking soda or saleratus. Mix with sweet milk enough to make a batter as stiff as can be readily stirred with an iron spoon. Bake 6 hours.

Another Indian Loaf.—Contributed to the *Agriculturist* by Sarah Fuson of Fulton County, Ill. who has tested it satisfactorily for ten years past. Take 4 to 6 quarts of Indian meal and scald two thirds of it, stirring thoroughly with an iron spoon; cool with cold water until it will not cook the yeast, and add one pint good salt yeast. Stir in the remainder of the meal; put in a pan to rise, the same as light wheat bread, and afterwards bake well, and keep in a cool, dry place. Good when one to four days old.

Corn Meal Griddle Cakes.—J. S. Gerver, Williams Co., O., contributes the following to the *Agriculturist:* Take 3 cups of Corn meal, 1 cup of wheat flour; 1 cup of sour cream; 1 cup of sugar; 3 eggs; 1 teaspoonful of saleratus, and 1 teaspoonful of salt, with sweet milk enough to make a thin batter. Bake the same as Buckwheat cakes. It is good. [This must be very good when the eggs and cream are plentiful.—ED.]

Chicken Salad.

A friend who tried a chicken salad with us the other day, asked a minute description in the *Agriculturist* for the benefit of his better half and others. The recipe is a common one, for ought we know—perhaps it was used with special skill in the instance when our friend was so well pleased. Written minutely it reads thus: Mince finely the white parts of one chicken previously well boiled. Take blanched, crisp celery and chop very fine. With 1 measure of the minced chicken, mix 1½ measures of the chopped celery. Boil hard one large or two small eggs, roll the yolk fine, and mixing in a teaspoonful of mustard, and nearly as much salt, with ¼ teacupful of vinegar, pour this over the chicken. Cut the boiled whites of the eggs in rings and lay on top, garnishing also with the smaller leaves of the celery.—Usually the celery is not chopped half fine enough.

Apple Pie without Apples.

One cup of water, one cup sugar, juice and peel of one lemon, 1½ or 2 Boston crackers broken into small pieces; bake with under and upper crust. The pieces of cracker look like apple when the pie is baked. The addition of a little stewed apple makes the deception complete—to eye and taste.

"IT SNOWS."
(*Engraved for the American Agriculturist.*)

The Editor with his Young Readers.

We wish "A HAPPY NEW YEAR" to you all, Young Friends. And we mean what we write. These words are often uttered flippantly, or for form sake; but just now we are both earnestly desiring the happiness of those who are to constitute the junior members of the great *Agriculturist Family* for 1862, and also seriously asking ourselves, what can *we* do to make our young friends really happy. We shall try to interest you somewhat, with short stories, anecdotes, puzzles, etc., which may be likened to the toys, nuts, candies, and sweetmeats, of an entertainment; but then the mind as well as the body needs some more substantial food—bread, meat, etc. An old and very true proverb is, that "All work and no play makes Jack a dull boy." Let us read it differently thus: All play and no work (or study) makes Jack a—— a *what*? We will let you answer.

Start Right.

George, James, John....Mary, Susan, Jane.... and all the rest! We suppose each one of you think now—as we often thought, when a boy—that you will do better in 1862 than you have done in any former year. That's right. We all ought to determine to improve more and more in every year that passes along. But mere wishing, and resolving, will never accomplish any good. Suppose James *wishes* to go a fishing, and having obtained permission from his parents, *resolves* to go early tomorrow morning. Does he rest satisfied with the wish and the resolution? No. He begins to think about the hooks, and lines, and poles, and bait. And he not only thinks and plans about them, but he goes to work at once in hunting them up and getting them ready. He lays specific plans, and begins to *do something*. In the morning he is up, and he *does something* at once; and he *keeps doing something* all day—walking, hunting a good place, or patiently holding the pole until his arms fairly ache, and at night he is rewarded with a heavy string of good fishes. What would you think of him if he sat still all the previous evening, and all the morning, and all the day, *thinking* how nice it would be to have a glorious nibble, and to haul out plenty of big fishes, and to bring home a string full? But how many boys and girls (and grown people too) sit and think over how nice it would be, to be kind hearted, obedient, amiable, lovable, to be able to curb an angry spirit, to avoid profane and unseemly words and thoughts, and to speak kindly to every one, even to the brutes; to do acts of kindness—in short, to have a good heart. Yet how often do they rest satisfied with the wish and the resolve, and even take credit to themselves for having these good wishes and resolutions, but *do* nothing. Now, young friends, when you think over some bad habit you wish to overcome, or some good habit you would wish to aquire, set right about the work of accomplishing the end. Lay your plans, just as James planned his arrangements for fishing. Begin now, and "hold on until the arm aches." Don't say, to morrow, or next week I shall begin, but begin *now*. Does that quick temper trouble you, set a watch over it now, and the very first time it begins to rise, remember your resolve, and check it at once. Keep repeating the same effort, every time there is occasion, and by and by you will master it. Hold the pole until your arm aches, and you will catch the desired fish. Firm resolutions, with well defined plans, and prompt action, will accomplish wonders. *Start right.* Begin *now;* keep at it through the year; and at its close, if you live till then, you will look back with pleasure upon the year 1862. Begin now, to day, this hour. *Start right*, and then hold on even "if the arm does ache."

An Adroit Thief.

A thief in England, who had been long watching an opportunity to steal from a certain house, one day saw both the owner and his wife go out, and immediately entered the premises to improve the opportunity. He proceeded up stairs and seized a feather bed, the most valuable article he could see, and commenced carrying it down stairs, walking *backward*. When about half way down, the owner entered the front door, and exclaimed, "Here you rascal, what are you doing?" "Taking this bed upstairs sir," was the reply. "Mr. Jones who says he is an old friend of yours, and is coming to spend a few weeks with you, sent me here to bring his bed." "Mr. Jones! I don't know Mr. Jones; what right has he to invite himself into my house? Clear out. "Very well, sir," replied the thief, coming down stairs with the bed, "but Mr. Jones will be powerful mad." And away he went with his load, leaving the family to discover their loss at bed time.

The Adopted Larks.

A gentleman in England relates that he found a nest full of young meadow larks, the mother bird having been killed by a stroke of the scythe while on her nest. It happened, that a robin had made her nest near his dwelling, and had just commenced sitting. He took the young larks, and watching his opportunity when the robin was away, removed the eggs, and putting the birds in their place, remained near to watch the result. The robin soon returned, and was just about to hop in, when she discovered the birds. She raised her wings, and stood as though greatly astonished. She looked at them first with one eye, then with the other, turning her head in a most comical manner. In a few moments she flew swiftly away, but almost immediately returned with the male robin, who manifested as much surprise as his mate had done. They chirped and chattered together at a great rate, earnestly discussing this unexpected state of affairs, and then suddenly darted away. The gentleman supposed they had decided to desert the little foundlings, but presently they both came back with food in their bills, and from that time reared them as tenderly as though they had been their own.

Whitening Sugar—A Curious Discovery.

The common sugar of our tables is made from the juice of sugar-cane, which grows only in very warm countries. This sugar cane resembles the stalks of our Indian corn, though its juice is much sweeter. In making sugar, the cane is cut into short pieces, and passed through a mill to press out the juice. This liquid runs off into a reservoir, from which it is dipped out into boilers, and boiled down. This process sends off the watery part of the sap in steam, leaving the sugar behind. When it is boiled down to syrup, this is put into large wooden trays called coolers. Here it becomes grain sugar.

But what a dark, dirty, brown mass it is! Can it be whitened? Yes, and here we will tell how man first learned to do it. A hen that had walked through a puddle of clay and water, went into a sugar-house, and walked over a pile of brown sugar. Some one noticed that wherever she stepped, the sugar was whitened. This man opened his eyes wide, and by several experiments soon discovered the fact that moist clay would whiten sugar!—And that man's discovery led on to a systematic use of earthen jars, shaped like the annexed cut, and hence came the old-fashioned "loaf-sugar." The raw sugar is put into one of these long jars, with the widest end upward. When the jar is nearly full of sugar, clay is put on the top and kept constantly wet. The water runs through the clay and sugar, and finds its way out through a small hole at the bottom of the jar. In this way, the whole mass of sugar becomes white.

Our young readers should watch even hen-tracks, and all other such things, for sharp looking and close thinking often amount to something useful. A dull head would have shouted "Shoo!" shoo!" to the old hen, and scraped off her muddy tracks, and thought no more about it. Not so this wide-a-wake man, as much of a philosopher in his way, as Isaac Newton in his, when he saw the apple fall.

*

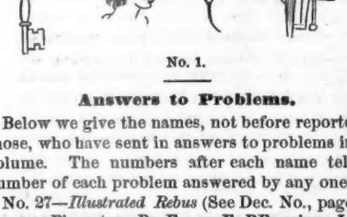
The Irishman, when asked by some jokers how they made cannons, naively answered that they "take a long hole and cast some iron around it." Cannons are not cast hollow at all, but one solid piece of metal is cast and afterward bored out.

A Boy Regiment—Good.

We have just heard that in a Western County (name and location not given,) there were a large number of patriotic boys, very desirous of doing something for their country in these times; but their ages, (13 to 16,) prevented their being received as volunteers in the army. But they did the next best thing. A regular regiment was formed, with Colonel, Major, captains, lieutenants, corporals, etc., and all were fully armed, not with guns and swords, but with good buck-saws and axes,—a few of them as "engineers" and "sappers and miners," carried beetles and wedges. They organized under the name of "The Wood Cutters' Regiment." Thus organized, they sent out all through the county, "scouts," who hunted up every family from which an adult had gone forth to the war. The volunteers then separated into "divisions," "companies," and "battalions," and commenced a vigorous assault upon the wood-piles of all these families, and made short work of cutting up a good winter's supply of fuel. "Foraging parties," with teams, procured and hauled wood, where a supply was not on hand. The regiment will not disband before Spring, but keep up the battle until the enemy, under Gen. Frost, is compelled to retire to the northern borders of Queen Victoria's American Possessions. Good for these young soldiers, we say. Here is an example worthy of universal imitation. Let us have such a regiment in every county in the country. Send us the names of the regiments, and the officers, and we shall gladly publish them in our roll of honor. Every private in such a regiment will be a "high private."—One hint more. While about it, don't stop with the families of soldiers. Let the scouting parties enrol the name of every poor widow to be found, and let them be defended against any possible disturbance from Gen. Frost. We recall, with pleasure, the fact that in more peaceful times we once held a captain's commission, in a company organized to supply and cut wood for each family in the neighborhood whose natural provider was dead, or disabled by sickness. Never shall we forget the pleasure experienced by every member under our "command" when we deposited ten loads of wood at a door where the man of the house was sick, and the family were in bed at mid-day, *to keep warm*—their last stick having been burned up the day before. If boys ever chopped wood with a will, it was on the afternoon of that day. If ever boys went to bed feeling joyful, it was our company on the night of that day.—When, and where shall we hear from the second wood-sawers' regiment for this Winter?

Problems, Puzzles, etc.

Under this head we shall try to furnish some amusement, combined with instruction, for our young readers. Unfortunately we have only room in this paper for the Illustrated Rebus below, which conveys a good sentiment. It is so easy, that the very little folks can probably read it, we think.



No. 1.

Answers to Problems.

Below we give the names, not before reported, of those, who have sent in answers to problems in last volume. The numbers after each name tell the number of each problem answered by any one.

No. 27—*Illustrated Rebus* (See Dec. No., page 375. *Answer:* Piece two Bs E cur E RE quires J UST ice —or thus: *Peace to be secure requires justice.*

No. 28—*Enigma.* Answer: Drill.

No. 29—*Puzzle.* Answers: 1st. T-h-a-t—2d. I-t.

Correct answers received from: Wm. J. Badger, 24, D. Wightman, 21, 22; Corley B. Shoemaker; Edward T. Moore, 25, 26; Jarvis H. Arnold, 25, 26; J. K. Mentzer, 25; "Amateur," 25, 26; H. Elliott McBride, 26; Torrey Kirk, 25, 26; "F. B. C.," 26; Walter S. Wales, 25, 26; Frank Fancher, 25; J. R. Parkison, 25; Emily Clark and Ella Skilton, 25, 26; Ellery W. Newton, 25, 26, (would like to see the enigma, but can not promise to publish it;) "E. D." 25, 26; Isaac T. McLain, 26; "Jo," 25, 26; A. R. and J. C. Murray, 25; U. F. Hallenbeck, 25; Robert M. Taggart, 25, 26; J. W. Freley, 25; "Americus," 25, 26; Alfred W. Wolcott, Co. B, 4th Reg. Iowa Volunteers, stationed at Rolla, Mo., 25; James V. Grey, 25; C. L. and A. C. Siewers, 25; Geo. B. Hedges. 25; C. L. Vest, 25; Benjamin F. Hoyt, 25, 26; J. W. Chisholm, 26; Sarah H. McBarney, 25; H. Z. Cande, 26; Ellen Forbes, 25; E. Washburn, 26; John Strinkard, 25, 26; Martin Edwards, 25, 26; Katie M. Humphrey, 25; W. Jay, 25; A. Coombs, 25; Mary Gifford, 25; Edgar Holcomb, 26; Augustus Reifstack, 25; H. F. Miles, 25; Franklin M. Rose, 28, 29; Nathan Tyler, 28, 29; Jarvis H. Arnold, 27, 28, 29; Ella C. Marshall, 29; L. E. Rockwell, 29; Mary A. Elliott, 27, 28, 29; Sarah Elliott, 27; Sophey Joice, 28, 29; Jessie Mayland, 28, 29; Rufus W. Weeks, 27, 28, 29; Misses Emma Littell, Hattie and Amanda Banks, 27, 28, 29; Charles L. and Sallie M. Siewers, 27, 28, 29; H. B. Jackson, 29; Andrew S. Miller, 28; Amos M. Peck, 29.

A Royal Barber.

Joseph II, emperor of Austria, was fond of traveling incognito, or in citizen's dress. One day he reached a little inn on his route, before the rest of his company came up, and entering into a retiring room, he commenced shaving himself. The inquisitive landlord was anxious to know what post his guest held in the emperor's retinue, and inquired. "I am his *barber*," was his majesty's reply.

Only a Sample.

The comic Burton, while sailing up the Hudson River, took his seat at the dinner table, and called for a beefsteak. The waiter brought him a very small piece, only enough for a taste. Mr. B. took it upon his fork, turned it over, examined it particularly, and with a comical look exclaimed: "Yes, that's it, bring me some."

"Fred," said a little four-year old, "give me sixpence to buy a monkey." "We've got one monkey in the house now," replied the elder brother. "Who is it, Fred?" asked the little fellow. "*You*," was the reply. "Then give me sixpence to buy the monkey some nuts." His brother "shelled out."

EXTRAORDINARY EXHIBITION.

"KING CORN" in Royal Array—Immense display of CORN BREAD, CORN CAKES, etc. Over 200 Specimens from all parts of the Country, with Specifications for Making each—Interesting and Valuable Information.

In November last we stated that, taking into account the current prices of Corn, Wheat, and Potatoes, in different parts of the country, West as well as East, and estimating the relative proportion of healthful nutriment furnished by a bushel of each, it seemed evident that

A similar amount of nourishment would be obtained from:

40 Cents expended in purchasing CORN.
100 Cents expended in purchasing WHEAT.
160 Cents expended in purchasing POTATOES,

and that with the present large crop of Indian Corn, and the great foreign demand for Wheat, it was especially important to use more corn for food, and save our Wheat to sell.——In order to call out information upon the best methods of *cooking* Indian corn meal, we proposed, in the *December Agriculturist*, to have an exhibition of Corn Bread, and Corn Cake at our office on December 14th.—Premiums of $10, $5, and $2, were offered for the best, second best, and third best loaves of Bread, consisting mainly of Corn meal; also an extra premium of $4 for the best loaf of Cake of any kind in which corn meal should be the chief ingredient. *A Special Cake Premium*—As the extra premium of $4 for Corn Cake was limited somewhat by the *cost*, we afterward decided to add to our published premiums a special premium of $2 to be awarded to the *Best Corn Cake of any kind, without regard to cost.* The main requisites for the BREAD were to be: *cheapness*, fair quality, and adaptability to *general family use*, eaten cold, as well as hot, and when from one to three days old. Full directions for making were to accompany each loaf.

Not having advertised the exhibition, beyond the single announcement in this journal, and not receiving many responses in advance, we began to fear the war would divert attention from what appeared to us to be an important enterprize for the public. But Thursday evening (Dec. 12th,) specimens began to arrive; Friday morning the Express Companies, and others, called frequently, with from one to a dozen loaves; Saturday morning the inflowing current grew stronger and larger, until finally the entries reached over *two hundred* (**219**). Several entries being for duplicated loaves, the entire number of specimens reached some **250!** As will be seen below, these came from the distant West, from the Middle States as far South as Maryland, and from the North and East. A space of *seventy four feet* of wide table room was closely filled with a most imposing display of loaves of all sizes, from nearly half a bushel down to patty-pan corn meal biscuits, and small corn meal crackers—and not bad crackers either. There were pure corn meal loaves, and loaves of "Rye and Indian;" loaves one part wheat or rye flour with three parts corn meal, and loaves apparently half meal and half flour, with loaves of every intermediate combination. There were pumpkin loaves, corn meal dodgers, corn meal pound cake, corn meal pone, corn meal crullers, corn meal "nut-cakes," corn meal baked puddings, and corn meal what-nots. There were round loaves, square loaves, high loaves, and flat loaves—in short, loaves of every conceivable form and shape, for of the two hundred and fifty-odd specimens, scarcely two were alike in form and mode of making. The sight was one to gladden not only the hungry, but to cheer the heart of every patriot when he remembers that corn is our native cereal, that it grows every where and in abundance, that it is as yet untouched by any disease, that it is healthful and nourishing, and that to-day one, with cash, can buy from ready sellers at the West, more bushels of corn at 15 cts. a bushel than there are bushels of wheat now on the Continent. The exhibition showed at a glance the great variety of palatable forms in which corn meal can be worked up.—Under or by the side of each specimen were placed the directions for making it. The large concourse of visitors, numbering by thousands, were both surprised and gratified, and many went away resolved to henceforth largely increase their family purchases and use of corn meal. The general feeling seemed to be that of a good farmer housewife from Central New-Jersey, who brought in a noble loaf, expecting to get the first prize among a few competitors. She exclaimed "Wa'll, wa'll, this beats all. Who'd a thought it? I always stood up for using corn, but I never did think so *many* things could be made of it. Corn IS King." *We* certainly felt much as she did.

At the urgent request of many gentlemen who wished to bring in their wives and daughters, we concluded to continue the exhibition over until Thursday, and on the evening of that day handed over to the Ladies' Five Points Mission enough to feed many hundreds of poverty stricken ones under their care or over-sight—a source of satisfaction certainly to the many whose fair hands had mixed and fashioned these loaves. The good keeping quality of most of the specimens was well tested by this delay.

The general results of the exhibition can but be widely useful, not only to the visitors, and to our own readers who will, in future numbers of the *Agriculturist*, find a hundred or more of the best recipes, but the Editors of other journals were present and made notes, and will send abroad the hints and suggestions they here derived. The public notice thus drawn to the subject will awaken far more general attention to the value of Indian Corn. We regret that our January number is so nearly closed up that we can only give this month,

A CONDENSED GENERAL REPORT.

The specimens, as they came in, were entered in a book, numbered from **1**, upward, the name and location of the exhibitor removed, and the directions placed upon the table with the loaves. In this way the Committee of Judges had before them the directions for each specimen, while they had not the slightest clue to the name or location of any exhibitor. They made their notes and decisions by the entry *numbers* alone.

The exhibitors, at least, will be interested to know that the committee of judges were carefully selected. The first named is a practical baker of Flushing, N. Y., of experience and good judgment; the second for a long time a baker of this City, was named to us by others in the same business, as one who would exercise sound discretion and good taste; the third, a well known farmer of Westchester County, whose large experience as an exhibitor, manager, and judge, at various agricultural fairs was useful as the overseer. The three ladies we know to be good housekeepers. The first-named resided long in the South, where they pride themselves on good "corn

bread"; and the same may be said of the second, substituting West for South. Prof. J. A. Nash, formerly Agricultural Professor in Amherst College, acted both as judge and secretary to the committee, making careful notes of all the examinations. The Committee commenced their labors early on Saturday morning—cutting and tasting each specimen, and examining the specifications. They continued until a late hour, and on Monday morning they met and spent most of the day in going over the whole again, to revise the notes of the previous day. So much for the general arrangements. We have this month only space remaining for the Committee's report, and list of exhibitors. To those who took the time and trouble, and incurred the expense of sending their contributions to this Exhibition, we desire to return hearty thanks, both for ourselves, and in behalf of the public, for we are assured that great public good will yet come of the interest awakened by the exhibition.

Judges' Report.

The undersigned, requested to act as a Committee of Examination and Award at the exhibition of Corn Meal Bread, Cake, etc., held at the office of the *American Agriculturist*, Dec. 14th to 18th, 1861, have discharged their duty to the best of their ability, and respectfully report: We found the number of entries **219**, while the duplicate specimens included in the same entries raised the total number of specimens to about 250. We confess to a feeling of no little surprise and gratification at the large and interesting variety contributed. The long, closely packed tables presented a sight surpassing anything that we had ever before seen, or conceived. It has been truly gratifying, to us at least, to find how great the variety of uses that can be made of our great national cereal crop, and we are fully convinced that few persons can be aware how well adapted this material is to supply not only a cheap, wholesome diet, but also for making, with suitable additions, a great variety of most palatable cakes, etc. We found excellent corn meal pound cake, fruit cake, crullers, biscuit, breakfast cake, etc., in addition to numerous loaves of first rate bread made with various proportions of wheat or rye flour, eggs, sugar, molasses, pumpkins, etc. Of all the specimens exhibited, a large proportion were "fit food to set before a king," and there was not one that would afford any reasonable grounds of complaint to the family compelled to constantly "eat this or starve." Of the whole number, we scarcely found two exactly alike, either in form or specifications for making. The sweetness, lightness and good quality of several loaves three to five days old, consisting of one part of corn meal to from two to four parts of wheat flour, shows that this proportion may well be adopted not only in families, but in the food for soldiers; and we would respectfully suggest to those in charge of this department of the Government to look into the subject. The comparative cheapness of Indian meal would soon save a hundred thousand dollars, in feeding our vast armies, while the small admixture of one-fourth to one-third of corn meal makes a much less tenacious, and therefore more healthful bread, than one composed entirely of fine flour.

CORN MEAL BREAD.

As the conditions of the premiums required *cheapness* as well as *fair quality*, we could not take into account a large number of excellent loaves of "Rye and Indian," wheat flour with meal, loaves containing eggs, etc. After selecting fifty of the best, and re-selecting again and again, we finally decided that Nos. 34, 24, and 198, came nearest to the requirements of the offered premiums. The specifications furnished were as follows:

No. 34.—"Take 2 quarts of corn meal, with about a pint of (thin) bread "sponge," and water enough to wet it. Mix in ½ pint of wheat flour and a table-spoonful of salt. Let it rise, and then knead well the second time. Bake 1½ hours."

This loaf was of beautiful form, cut light, and was of fair quality when three or four days old. Except in color and difference in taste, it resembled a wheat flour loaf.

No. 24.—"Mix 2 quarts of new corn meal with 3 pints of warm water. Add 1 tablespoonful of salt, 2 tablespoonfuls of sugar, and one large tablespoonful of hop yeast. Let it stand in a warm place 5 hours, to rise. Then add ½ pint (or 1½ teacupfuls) of wheat flour and ½ pint of warm water. Let it rise again 1½ hours; then pour it into a pan well greased with sweet lard, and let it rise a few minutes. Then bake in a moderately hot oven, 1½ hours. It is *best* when hot."

This was a beautiful, almost crustless loaf, of a pleasant sweetish taste, and good quality. The bottom part was a little heavy, as if not baked quite enough, or not raised sufficiently, but a commendable bread, and rather more palatable than No. 34.

No. 198.—"Take 2 quarts of white corn meal, 1 tablespoonful of lard, 1 pint of hot water. Mix the lard in water; stir it well, that it may get heated thoroughly, and add ½ pint of cold water. When the mixture is cool enough, add 2 well-beaten eggs, and 2 tablespoonfuls of home-made yeast. Bake 1 hour, in a moderately heated oven. If for breakfast, make over night."

This, owing to the whiteness of the meal, and the lightness of the texture, as well as the general appearance of the loaf, greatly resembled the ordinary loaf of wheaten bread on our tables, and is worthy of general adoption where eggs are sufficiently plentiful.

For *taste* and *quality* the above three would stand in order of merit, 198, 24, 34. But taking into account not only taste and quality, but *cheapness* and *little trouble in making*, or "adaptation to general every day family use," we unanimously award as follows:

First Premium of **$10** to Number **34.***
Second Premium of **$5** to Number **24.**
Third Premium of **$2** to Number **198.**

CORN MEAL CAKE.

In this class there were a great variety of specimens. Many of them were very good, and several must be *first-rate* when eaten hot or warm. As cheapness as well as quality were to be taken into account, we finally decided to award the

Corn Meal Cake. Premium of $4 to Number **166,** made as follows: "Take 3 teacupfuls of corn meal, one teacupful of wheat flour, 2 tablespoonfuls of brown sugar, 2 teaspoonfuls of cream of tartar, and 1 teaspoonful of salt. Mix well together *while dry*. Add 1 teaspoonful of soda (or saleratus) dissolved in warm water. Mix the whole to a thin batter, and bake in a quick oven, ¾ hour. The same batter will bake quicker in patty pans, or on a griddle, like buckwheat cakes."

A Special Premium was placed at our disposal to be awarded to the best Corn Meal Cake of any kind, without regard to cost. This was a difficult task, as there were many specimens all worthy to be called "best;" but after extended examination and consultation, we unanimously agreed to award

Premium of $2 for best Cake of *any kind* to No. **125,** Made as follows:

Take eight eggs, and their weight in powdered sugar; the weight of six eggs Indian meal; ¾ lb. butter, and one nutmeg. Beat the whites, and the yolks of the eggs separately; adding the whites last; bake one hour.

The Committee would gladly mention many other excellent specimens both of Bread and Cake, but we learn that it would render the report too long for immediate and general publication. We will, however, append to this report, memoranda made during the examination, which can be published hereafter, as we understand it to be the design to print in the *Agriculturist* a more full account of the different specimens. We must, however, call attention to No. 140, a most excellent cake or pudding suitable for breakfast, or for any other meal, as we found it delicious when eaten cold, and five days old. The directions are as follows:

No. 140.—"Take 2 cups corn meal, 1 cup wheat flour, 1 teaspoonful salt, 2 teaspoonfuls cream of tartar, 1 teaspoonful of soda, 3 eggs, 3 tablespoonfuls sugar, 1½ pints milk, and 1 tablespoonful butter. Rub meal, flour, salt, soda and cream tartar through a seive, which will mix them thoroughly. Then beat the eggs and sugar together, adding to them the butter melted. Next add the milk, and last of all stir in the previously mixed meal, flour, salt, soda and cream tartar. Bake immediately and rapidly, (to secure the escaping gas.) Twenty minutes will finish it in a brisk oven."

In conclusion the Committee desire to return their thanks in behalf of themselves and the public, to the proprietor of the *American Agriculturist* for originating and carrying out this most interesting and useful exhibition, and they award to him a special Honorary Diploma. Our own task has been a laborious and difficult one, but it has been cheerfully performed, and we have found ourselves intensely interested and gratified, and the knowledge we have ourselves acquired has rewarded our labors a hundred-fold. (Signed,)

John S. Pittman, Mrs. Wm. T. Hemmenway,
Alexander Lang, Miss Sarah C. Stewart,
W. S. Carpenter, Mrs. ——— ——— } Committee.

New-York, Dec. 18th, 1861.

SUCCESSFUL COMPETITORS.

* The names of the successful competitors, which were wholly unknown to the Judges, are as follows:

No. **34.**—Mrs. Jane O'Brien, Carrick, Allegany Co., Pennsylvania.

No. **24.**—Mrs. Lott Cornelius, Locust Valley, Queens Co., Long Island, N. Y.

No. **198.**—Mrs. R. Flanklin, Annapolis, Maryland.

No. **166.**—Mrs. W. A. Jenkins, Bedford Avenue, Williamsburgh, N. Y.

No. **125.**—Mrs. H. A Judd, Rome, Oneida Co., N. Y.

[We are glad to find a "namesake" successful in exhibiting the merits of "King Corn." Though wholly a stranger to us until after receiving the Judges' Report and referring to the clerk's entry book to find who sent in No. 125, we are inclined to think there must be some relationship, even though distant.—ED.]

No. **140.**—Miss C. A. Belknap, Kent-av., Brooklyn, N.Y.

As previously hinted, we shall hereafter publish many of the best recipes or directions in our regular Household Department. Owing to the late date, we can only find room now for the few recipes given in the Judges' Report.

LIST OF ENTRIES.

REMARKS.—The specimens were numbered as below, in the order received. In many cases the same contributor sent duplicate specimens of bread, cake, etc., so that the actual number of loaves considerably exceeded the numbered entries.——Through the fault of the express carriers, or otherwise, the specimens numbering above 207 did not arrive until Tuesday morning, Dec. 17, after the Judges had made their award. We suppose nearly all the contributions came from Ladies, but where only the initials were given, we are in doubt whether to write *Mrs.*, *Miss.*, or *Mr.*, and necessarily omit the prefix.

No. 1—Mrs. D. R. Pope, Susquehanna Depot, Susq. Co., Pa.
2—Mrs. Louis C. d'Homergue, Metuchin, Mid'sex Co., N.J.
3— do. do.
4— do. do.
5—Mrs. H. C. Compton, Plainfield, Essex Co., N. J.
6—Mrs. Bascome, New-York City.
7—R. M. Cary, Factoryville, Staten Island, N. Y.
8—Miss R. Hadwick, Hempstead, Queens Co., N. Y
9— do. do.
10—Mrs. H. W. Ransom, Glens Falls, Warren Co., N. Y.
11— do. do.
12—Mrs. J. H. Anner, Nyack, Rockland Co., N. Y.
13— do. do.
14— do. do.
15—Mrs. John R. Fales, Rhode Island.
16—Miss Joanna Thornal, Metuchin, Middlesex Co., N. J.
17— do. do.
18—Mrs. H. Sinclair, Squan Village, Monmouth Co., N. J.
19— do. do.
20— do. do.
21—Mrs. H. Atwater, East Farms, Hamden Co., Conn.
22—Mrs. C. B. Miner, Greenville, New-London Co., Conn.
23—H. Rulon, Huntington, Suffolk Co., N. Y.
24—Mrs. Lott Cornelius, Locust Valley, Queens Co., N. Y.
25— do. do.
26—A. Chapin, Irvington, Westchester Co., N. Y.
27—Mrs. S. S. Jessup, Harlem, New-York Co., N. Y.
28— do. do.
29—Mrs. John Housel, Copper Hill, Hunterdon Co., N. J.
30—Miss M. A. Gibson, White Plains, Westchester Co., N.Y.
31—Mrs. J. W. Duryea, New Utrecht, Kings Co., N. Y.
32—Mrs. E. Blake, Middletown, Middlesex Co., Conn.
33—Mrs. A. O. Wilcox, Guilford, New-Haven Co., Conn.
34—Mrs. Jane O'Brien, Carrick, Allegany Co., Pa.
35—Mrs. Stephen Hoyt, New Canaan, Fairfield Co., Conn.
36—Hannah G. Snow, Waterford, Camden Co., N. J.
37—Miss Annie Bell, Hanesville, Kent Co., Md.
38— do. do.
39—Mrs. Elizabeth Woolsey, Churchville, Harford Co., Md.
40—Mrs. Mary J. Davis, near Milford, Kent Co., Del.
41—S. B. Pettit, Gates-ave., Brooklyn, Kings Co., N. Y.
42— do. do.
43—Mrs. S. J. Pine, Hauppaug, Suffolk Co., N. Y.
44— do. do.
45— do. do.
46—Miss P. Ferris, Plainville, Hamilton Co., O.
47—A Lady, Flushing, Queens Co., N. Y.
48—E. Niblo, (16 years,) Williamsburg, Kings Co., N. Y.
49—Miss L. L. Prime, West Flushing, Queens Co., N. Y.
50—Mrs. S. Haviland, Rye, Westchester Co., N. Y.
51— do. do.
52—Mrs. S. Overton, Sayville, Suffolk Co., N. Y.
53— do. do.
54—M. A. H. Rowe, East Chatham, Columbia Co., N. Y.
55— do. do.
56— do. do.
57—Mrs. C. W. Powers, Sharon Station, Dutchess Co., N.Y.
58— do. do.
59— do. do.
60—Mrs. Wm. Robotham, Newark, Essex Co., N. J.
61—Mrs. P. Knox, Bedford Station, Westchester Co., N. Y.
62—Sarah J. Fanning, Southampton, Suffolk Co., N. Y.
63—Miss E. Merritt, Newburg, Orange Co., N. Y
64— do. do.
65— do. do.
66— do. do.
67—Mrs. James Bellard, Hudson City, Hudson Co., N. J.
68—M. T. Willis, Syosset, Queens Co., N. Y.
69— do. do.
70—Emma J. Eppes, Byberry, Philadelphia Co., Pa.
71— do. do.
72—Mrs. H. Burdett, Fort Lee, Bergen Co., N. J.
73—Mrs. J. R. Green, Cambridge, Washington Co., N. Y.
74— do. do.
75—Harriet B. Newell, Westport, Fairfield Co., Conn.
76—Mrs. D. G. Henry, Leicester, Addison Co., Vt.
77— do. do.
78—Adeline C. Belknap, (no address.)
79—E. H. Noble, Jenkintown, Montgomery Co., Pa.
79½ do. do.
80—Mrs. Ermina Moody—no address.
81—Mrs. John Welles, Wethersfield, Hartford Co., Conn.
82—Mrs. N. Dean, New-York City.
83—Mrs. H. E. Moseley, Springfield, Hampden Co., Mass.
84— do. do.
85—P. Jane Tibbetts, Falls Village, Litchfield Co., Conn.
86—Mrs. Eliza Renoud, Westport, Fairfield Co., Conn.
87— do. do.
88—S. B. R. Williams, Norwich, New-London Co., Conn.
89— do. do.
90—Cornelia Maguire, So. Manchester, Hartford Co., Conn.
91—Mrs. C. H. Mead, Cornwall, Orange Co., N. Y.
92—Mrs. E. Hower, Wilton, Fairfield Co., Conn.
93— do. do.
94—Mrs. D. E. McAuley, Wilton, Fairfield Co., Conn.
95—Mrs. C. F. Moeller, Wilton, Fairfield Co., Conn.
96—Hannah Wanzer, Lanesfield, Conn.
97— do. do.
98— do. do.
99—Sarah S. K. Mansfield, Fairhaven, New-Haven Co., Ct.
100— do. do.
101—Dora B. Robinson, Flatbush, Kings Co., N. Y.
102—Mrs. R. W. Mathewson, Durham, Middlesex Co., Conn.
103— do. do.
104—Mrs. J. H. Fullerton, Yorkville, New-York Co., N. Y
105— do. do.
106—F. L. Collins, Lime Rock, Litchfield Co., Conn.
107—Mrs. Barnes, Brooklyn, Kings Co., N. Y.
108— do. do.
109— do. do.
110— do. do.
111— do. do.
112—Mrs. J. E. Macomber, Portsmouth, Newport Co., R. I.
113— do. do.
114—Mrs. Geo. S. Jacobs, Feltonville, Middlesex Co., Mass.
115—Mrs. Ben. F. Chase, So. Portsmouth, Newport Co., R. I.
116— do. do.
117—Mrs. B. S. Arnold, Woonsocket, Providence Co., R. I.
118— do. do.
119—J. G. Dennis, Portsmouth, Newport Co., R. I.
120—Mrs. S. B. Allen, Fall River, Bristol Co., Mass.
121— do. do.

122—Mrs. E. E. Perry, Central Falls, R. I.
123—Mrs. John Allison, Newburg, Orange Co., N. Y.
124—H. A. Judd, Rome, Oneida Co., N. Y.
125— do. do.
126—Mary A. Castle, Ilion, Herkimer Co., N. Y.
127—Emily A. Tanner, Clarkstown, Rockland Co., N. Y.
128— do. do.
129— do. do.
130—Emma L. Freeman, Harlem, New-York Co., N. Y.
131 do. do.
132—Mrs. Wm. Hinton, Williamsburg, Kings Co., N. Y.
133—Mrs. R. W. Cooley, Binghamton, Broome Co., N. Y.
134— do. do.
135—Mrs. R. B. Pratt, Homer, Cortland Co., N. Y.
136— do. do.
137—Mrs. S. V. Niles, Pleasant Mount, Wayne Co., Pa.
138— do. do.
139—Mrs. D. M. Sturtevant, Newark Valley, Tioga Co., N.Y.
140—Miss C. A. Belknap, Kent-av., Brooklyn, Kings Co., N.Y.
141—Mrs. A. D. Weymouth, Fitchburg, Worcester Co., Mass.
142—No name.
143—Mrs. J. T. Andrews, Nashua, Hillsborough Co., N. H.
144—Mercy Newton, Norwich, New-London Co., Conn.
145—Mrs. J. G. Caldwell, Ravenswood, Queens Co., N. Y.
146—S. Orr, Bowdoinham, Sagadahoc Co., Me.
147—Mrs. Lucy W. Kimball, New-London, N. Lon'n Co., Ct.
148— do. do.
149— do. do.
150— do. do.
151—Mrs. M. C. Walker, Lincoln, Middlesex Co., Mass.
152— do. do.
153—Mrs. D. S. Woodward, Lebanon, New-London Co., Ct.
154—A. A. Simmons, Stillwater, Sussex Co., N. J.
155—R. McDonald, Fulton Hotel, New-York City.
156— do. do.
157—Mrs. R. Gurnee, Monsey, Rockland Co., N. Y.
158— do. do.
159—L. E. Palmer, Humphreyville, Luzerne Co., Pa.
160— do. do.
161—Mrs. W. H. Cowl.
162—Mrs. Van Slyke, New-York City.
163—Mrs. M. C. Turner, New-York City.
164— do. do.
165—Miss Wood, New-York City.
166—Mrs. W. H. Jenkins, Brooklyn, (E. D.) Kings Co., N.Y.
167— do. do.
168—Mrs. W. H. Dodge, Brooklyn, Kings Co., N. Y.
169—New-York Mutual Baking Company.
170— do.
171—R. Fancher, New-York City.
172—Mrs. T. B. Smith, Tappan, Rockland Co., N. Y.
173— do. do.
174—Mrs. W***, New-York City.
175— do. do.
176—Mrs. Davis, New-York City.
177— do. do.
178—Jessie Bagg, New-York City.
179— do. do.
180— do. do.
181—E. F. P., Astoria, Queens Co., N. Y.
182—Mrs. John Ashcroft, Brooklyn, Kings Co., N. Y.
183—Mrs. L. Ryerson, Meads Basin, Passaic Co., N. J.
184— do. do.
185— do. do.
186—Mrs. George Wales, Rochester, Monroe, N. Y.
187—Arabella Culverwell, Laporte, Laporte Co., Ind.
188—Mrs. H. Edwards, Ceres, Allegany Co., N. Y.
189—Clarissa Edwards, Little Genesee, Allegany Co., N. Y.
190—Mrs. O. Comstock, Avon, Livingston Co., N. Y.
191— do. do.
192—Mrs. N. E. Adams, Stamford, Fairfield Co., Conn.
193—Mrs. Dr. W. C. George, Charlton, Worcester Co., Mass.
194—M. A. Park, Stratford, Fairfield Co., Conn.
195— do. do.
196—S. E. Deaver, Harford Co., Md.
197— do. do.
198—Mrs. R. Franklin, Annapolis, Anne Arundel Co., Md.
199—Mrs. C. M. Brooks, Centre Road, Crawford Co., Pa.
200— do. do.
201—Mrs. G. C. Kellogg, Brecksville, Ohio.
202—Mrs. F. J. Sawtell, Athol, Worcester Co., Mass.
203— do. do.
204—Mrs. M. J. Gilbert, East Westmoreland, Chesh. Co., N.H.
205—Mrs. H., Brooklyn, Kings Co., N. Y.
206—Mrs. E. A. Coon, Toulon, Stark Co., Ill.
207— do. do.
208—F. Stosser, New-York City.
209—Mrs. Joshua Read, jr., Pawtucket, Providence Co., R.I.
210—Mrs. E. J. Welsh, Brockwayville, Jefferson Co., Pa.
211—Mrs. E. A. Dunckiee, Crown Point, Essex Co., N. Y.
212—Mrs. P. L. Cleaveland, LaGrange, LaGrange Co., Ind.
213—Mrs. M. Scofield, Brooklyn, Kings Co., N. Y.
214— do do.
215—Mrs. Barnes, Brooklyn, Kings Co., N. Y.
216—Jas. Morton, Brooklyn, Kings Co., N. Y.
217—F. & Chas. Beck, New-York City.
218— do. do.
219—Mrs. E. Scofield, Brooklyn, Kings Co., N. Y.

Market Review, Weather Notes, etc.

AMERICAN AGRICULTURIST OFFICE,
New-York, Friday Morning, Dec. 20, 1861.

*** The materials for this review are furnished specially for the *Agriculturist* by a reliable man of long experience, who, throughout the year, spends the whole of each day in the markets, watching the transactions and collecting information, and we flatter ourselves that this report is one of the most correct anywhere published.

It will be seen by our condensed tables below, that the transactions in Breadstuffs in this market have fallen off, as compared with the previous month. This was, of course, to be expected, as the canals have been closed about half of the month previous to this date, and the receipts have necessarily been restricted. But in the second table we introduce a comparison which shows that business has been much larger in volume, than during a corresponding period last year. The increase is quite marked in the receipts of flour, corn, rye, and oats, and in the sales of flour, wheat, corn and rye. Of Barley the receipts have been heavier, but the sales much less. The sales of breadstuffs have been restricted, not only by a want of supplies, but especially by the high rates of freights to foreign countries on account of the risk of American vessels, by the difficulty at one time of selling bills of exchange, and recently by the news of excitement in England. It has been a matter of surprise even, that the prices are not more depressed in the present excitement. The table of prices below shows that flour averages scarcely 15 cents per barrel below the rates one month ago, while wheat, corn, and corn meal, are fully as high to day, as at the same date last month. But for the present unlooked for political disturbance abroad, prices would undoubtedly rule much higher, and should the present excitement blow over, without serious results, we shall look for a sharp upward turn of the market, owing to a positive and certain large demand, which can not be met with adequate supplies until spring navigation opens. So entirely convinced are the leading dealers in breadstuffs that we shall have only a diplomatic contest with England, that they hold stocks firmly .... There are few changes in the prices of the various articles of Trade. Cotton has advanced rapidly, owing to the very limited supply, and an active speculative demand.... Wool has advanced 2 to 3 cents per lb. on some grades, with a good demand still prevailing.... Pork has declined under the influence of the large receipts of live hogs at the market as noted below.... There has been a fair demand and steady businesss in provisions, tobacco, hay, hops, naval stores, etc. The table below shows what changes have occurred in prices.

CURRENT WHOLESALE PRICES.

	Nov. 19.	Dec. 2d.
FLOUR—Super to Extra State	$5 50 @ 6 00	$5 40 @ 5 85
Superfine Western	5 50 @ 5 65	5 35 @ 5 50
Extra Western	5 70 @ 7 00	5 60 @ 7 00
Fancy to Extra Genesee	6 00 @ 7 00	5 90 @ 7 40
Super. to Extra Southern	5 75 @ 8 50	5 70 @ 8 50
RYE FLOUR—Fine and Super.	3 10 @ 4 40	3 10 @ 4 50
CORN MEAL	2 85 @ 3 30	3 10 @ 3 50
WHEAT—Canada White	1 40 @ 1 50	1 45 @ 1 50
Western White	1 40 @ 1 53	1 44 @ 1 51
Southern White	1 45 @ 1 55	Nominal.
All kinds of Red	1 23 @ 1 44	1 24 @ 1 43
CORN—Yellow	69 @ 70	67 @ 68
White	70 @ 72	@ 70
Mixed	65 @ 67	66 @ 67
OATS—Western	46 @ 47	42½@ 43½
State	47 @ 48	43 @ 44
RYE	83 @ 84	83 @ 85
BARLEY	65 @ 87½	65 @ 80
HAY, in bales, per 100 lbs	60 @ 85	70 @ 85
COTTON—Middlings, per lb	24 @ 24¾	38 @ 40
RICE, per 100 lbs	6 75 @ 7 50	6 50 @ 7 50
HOPS, crop of 1861, per lb	15 @ 23	16 @ 23
FEATHERS, Live Geese, p. lb.	30 @ 36	32 @ 38
SEED—Clover, per lb	Nominal.	7¼@ 7¾
Timothy, per bushel	Nominal.	1 87½@ 2 25
SUGAR—Brown, per lb	7¼@ 9¼	7¼@ 9½
MOLASSES, New-Orleans, p.gl.	50 @ 55	50 @ 55
COFFEE. Rio, per lb	14½@ 17	17 @ 19
TOBACCO—Kentucky, &c, p.lb.	8 @ 16	9 @ 17
Seed Leaf, per lb	6 @ 22	5 @ 30
WOOL—Domestic fleece, p. lb.	40 @ 50	43 @ 53
Domestic, pulled, per lb	38 @ 47	36 @ 50
TALLOW, per lb	9½@ 9¾	9½@ 9¾
OIL CAKE, per ton	30 00 @36 00	34 00 @40 00
PORK—New Mess, per bbl	13 50 @14 50	12 50 @12 75
Prime, new, per bbl	9 00 @ 9 50	8 50 @ 8 87½
BEEF—Repacked mess	9 25 @12 00	11 50 @12 00
LARD, in bbls., per lb	8¾@ 9¼	8 @ 9¼
BUTTER—Western, per lb	11 @ 15	11 @ 16
State, per lb	15 @ 20	16 @ 22
CHEESE	5 @ 7½	6 @ 8
EGGS—Fresh, per dozen	16 @ 17½	19 @ 20
Limed, per doz		15 @ 16
POULTRY—Fowls, per lb	8 @ 11	6 @ 9
Geese, per lb	5 @ 8	6 @ 8
Ducks, per lb	8 @ 12	8 @ 10
Turkeys, per lb	8 @ 12	8 @ 11
Partridges, per pair	30 @ 60	30 @ 62
VENISON—per lb	6 @ 9	6 @ 10
Dried Apples, per lb	5 @ 6¾	5½@ 7¾
Dried Peaches, per lb., peeled	15 @ 18	18 @ 20
Dried Raspberries, per lb	15 @ 16	15 @ 16
POTATOES—Mercers, p. bbl	1 50 @ 2 00	2 00 @ 2 25
Peachblows, per bbl	1 38 @ 1 50	1 50 @ 1 75
Western Reds, etc.—per bbl.	1 12 @ 1 25	1 25 @ 1 38
Nova Scotias—per bush	40 @ 45	42 @ 47
Sweet Delaware, per bbl	3 00 @ 3 50	3 00 @ 3 50
ONIONS—Red, per bbl	88 @ 1 00	1 00 @ 1 25
White, per bbl	1 25 @ 2 00	1 25 @ 1 75
TURNIPS—Rutabaga, per bbl.	50 @ 75	75 @ 1 00
SQUASH—Marrow, per bbl	75 @ 1 25	75 @ 1 00
APPLES—Common, per bbl	1 50 @ 2 00	2 00 @ 2 50
Apples—good, per bbl	2 50 @ 3 00	3 00 @ 4 00
CHESTNUTS—per bushel	3 00 @ 3 25	2 50 @ 2 75
HICKORY NUTS—per bushel	75 @ 1 12	1 00 @ 1 12

TRANSACTIONS AT THE NEW-YORK MARKETS.

RECEIPTS.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley.*	*Oats.*
25 days *this* month	705,000	3,159,500	2,361,000	203,975	260,000	1,469,000
27 days *last* month	836,000	7,148,000	3,109,000	119,600	344,000	712,500

SALES.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley.*
25 days *this* month	778,000	5,641,000	3,229,000	204,000	276,000
27 days *last* month	795,000	8,998,000	4,521,000	123,300	335,000

COMPARISON OF RECEIPTS AND SALES TO SAME DATE LAST YEAR.

RECEIPTS.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley.*	*Oats.*
25 days *this* year	705,000	3,150,500	2,361,000	203,975	260,000	1,469,000
25 days *last* year	480,809	3,691,500	778,000	14,120	167,800	817,000

SALES.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley*
25 days *this* year	778,000	5,644,000	3,229,000	204,000	276,000
25 days *last* year	508,319	4,267,500	2,147,500	115,400	634,700
Increase this year	169,681	1,373,500	1,081,500	88,600	

EXPORTS FROM NEW-YORK, JAN. 1, TO DEC. 17.

	Flour.	*Wheat.*	*Corn.*	*Rye.*	*Oats.*
1861	2,926,238	27,508,407	12,135,055	882,242	159,845
1860	1,824,121	12,943,256	3,361,476	450	103,051
Increase	1,102,117	14,565,151	8,773,579	881,792	56,794

N. Y. Live Stock Markets.—THE CATTLE MARKETS have not been so over crowded with animals of late as previously. The receipts for the past 5 weeks have averaged 4,217 per week, or near 1,000 less than last month. Prices have gradually advanced nearly 1c. per lb. above last month's quotations. At the market of Dec. 18 there were many extra fat, or premium bullocks offered for "Christmas beef" which sold at 9c.@10c. per lb., estimated dressed weight. Good beeves, 8c.@9c.; ordinary 7c.@7½c.; and poor 5c.@7c. Average of all sales 8c. and everything sold off clean.

VEAL CALVES.—Receipts for the past 5 weeks number 2,809, or 562 per week, varying but little in supply or prices from the previous month. Good veals are worth 5c.@5½c. per lb. live weight. A mammoth calf, 8 months old, weighing 810 lbs. sold for $40, last Tuesday.

SHEEP AND LAMBS—Receipts have fallen off largely, the average for the past five weeks being 11,143 per week. They have advanced materially in price, good fat sheep selling at 4c.@4½c. per lb. live weight—a few "Christmas Sheep," of over 200 lbs. live weight, sold at $15 to $20 each. Stock is scarce just now.

LIVE HOGS—IMMENSE RECEIPTS.—The receipts have been enormous—far exceeding anything before known in this market. The total receipts for 5 weeks have been **170,614**, or 34,123 per week, while the receipts for all of last year were only 319,620, or an average of 6,147 per week. The greatest receipts for any one week in 1860 were 15,180; the receipts for *this* week were 38,200. This influx to the market, is due to the embargo of the Mississippi, a usual outlet to Western pork, and to the disturbed condition of the slaughtering towns along the Ohio and upper Mississippi.—The slaughter houses of this City were, for a time, unprepared for receiving so many, but they are now able to dispose of all that come. Prices have continued to rule low, but are improving a little now. The selling rates this week are for corn-fed hogs 3¼c.@3¾c. per lb. live weight. Still-fed 3c.

The Weather, has continued remarkably mild for a Winter month, with very little rain and only two light snows which disappeared with a few hours of sunshine ——OUR DAILY NOTES, condensed, read: *November* 19 to 22, clear and warm—23, rainy day—24, clear and cool, 1 inch snow fell at night, but soon melted—25 to 28 clear, cool—29, rainy day—30, rain A. M., clear P. M.—*December* 1, clear A. M., cloudy P. M.—2, cloudy—3, clear cool—4, coldest day of season mercury 18°, first hard freezing—5, clear, fine—6, cloudy—7 to 10, foggy mornings, clear and warm, Indian Summer days—11, rain A. M., clear, cool P. M.—12, 13, cool—14 to 17, clear and warm—18, cloudy, mild—19, 20, clear, fine.

Thermometer at 6 A. M., New-York.

[Observations carefully made upon a standard Thermometer (Fahrenheit).—*r* indicates rain—*s*, snow.]

OCTOBER.

1	52°	8	62*r*	15	52	22	48	29	40	
2	54	9	49	16	52	23	54*r*	30	45*r*	
3	63	10	52*r*	17	59	24	43	31	45	
4	56	11	61*r*	18	65*r*	25	34			
5	64*r*	12	61*r*	19	64*r*	26	49*r*	Average	53°	
6	67	13	52	20	56	27	50			
7	70*r*	14	47	21	45	28	38			

NOVEMBER.

1	44°	7	44	13	36*r*	19	34	25	33*s*	
2	50*r*	8	40	14	44	20	31	26	31	
3	55	9	49*r*	15	35*s*	21	33	27	33*r*	
4	44	10	38	16	35	22	33	28	36*r*	
5	42*r*	11	48*r*	17	39	23	41*r*	29	41*r*	
6	45*r*	12	43	18	36	24	34	30	36*r*	
Average									39°	

DECEMBER.

1	34	4	22	7	41	10	44	13	28	
2	35	5	30	8	39	11	46*r*	14	34	
3	24	6	39	9	46	12	24	15	38	

PREMIUM LIST,

For 1862---Vol. XXI.

Or Pay to Voluntary Agents who will attend to collecting names of new and old subscribers to the Agriculturist, and forwarding them to the Office.

(See List on next page.)

Experience has proved that it is a benefit to the subscribers themselves, as well as to the Puolisher, to have an *Agent* at every Post Office, to attend to collecting the names and subscriptions of old subscribers, and to present the advantages of the paper to those not yet acquainted with it. But to employ and commission a Special Agent in every neighborhood throughout the country, is out of the question. We therefore offer certain good articles, the value proportioned to the number of names sent in, and leave them open to every person disposed to attend to the business, in the locality where he or she may be known to be reliable. By giving the articles offered we can make the pay *much larger* than if in money, because we have facilities for getting these articles at a low rate. Besides, the advertising thus given to the manufacturers, induces them to bear a considerable portion of the expense on the articles we need for premiums.

☞ In selecting articles for premiums, we have aimed to get such as are *useful*, and as have been most frequently called for by our readers. ☞ WE WISH IT DISTINCTLY UNDERSTOOD *that these premiums are offered in good faith—no cheap, trashy, imperfect, poorly made, or second-hand thing, will be sent out, but each article offered, is the best of its kind, and every one will be selected by the publisher from the very best manufactured. They will be the best sold in the market at the prices named.*

☞ We offer nothing *for competition.* Each premium is for a specified number of subscribers, and no one's remuneration will depend upon what other unknown persons are doing. Every one aiming for a premium, knows just what he or she is working for; and also that if a higher premium is not secured, a lower one can be taken.

☞ Only one premium can be paid on the same subscriber

☞ *We make no distinction between new and old subscribers,* but it is expected that every canvasser will not only gather up the names of old subscribers, but also secure a large number of new names.

☞ Every person collecting names for premiums, should send the names with the money as fast as obtained, so that the subscribers may begin to receive their papers; but if designed for premiums, two copies of each list of names should be sent—one of them marked at the top "For Premiums," and also with the name of the sender.

☞ The premiums are offered for subscribers for Volume XXI (1862), *whenever received.* Canvassers will have time

for completing their lists, but the premium will be paid as soon as any club is made up—if duplicate lists are sent.

☞ Any person who has commenced sending in names at 80c. and finally fails to get the higher number of names, can fall back upon the smaller number, by remitting the 20 cents extra on each of the smaller number of names required.

☞ Clubs need not be all confined to one Post Office.

☞ No premium is sent till *specifically asked for*, as we have many friends who send in large lists but who will take no premium, and we are not certain that premiums are desired, unless the fact be mentioned particularly.

Table of Premiums for 1862.

Names of Premium Articles.	Price of Premiums.	Names at $1 each.	Names at 80 cts. each
2—Clothes Wringer, No. 2	$7 50	18	37
3—Clothes Wringer, No. 1	$10 00	23	48
4—Sewing Machine, (Wheeler & Wilson)	$45 00	90	48
5—Sewing Machine, (Wilcox & Gibbs)	$35 00	69	130
6—Aneroid Barometer	$7 50	19	98
7—Hydropult	$12 00	30	44
8—Five Octave Melodeon (best)	$75 00	125	257
9—4½ Octave Melodeon (best)	$60 00	104	182
10—Four Octave Melodeon (best)	$45 00	90	130
11—New Cyclopedia, 16 volumes	$48 00	96	140
12—Worcester's *Unabridged* Dictionary	$7 50	17	40
13—Five back Volumes Agriculturist, *p.p.*	$5 60	16	30
14—Four do do do do	$4 48	13	26
15—Three do do do do	$3 36	10	20
16—Two do do do do	$2 24		15
17—One do do do do	$1 12		10
18—Windsor & Newton's Paints	$2 50		20
19—Osborn & Hodgkinson's Paints	$1 50		15
20—Hand Corn Sheller (best)	$6 50	21	40
21—Straw and Hay Cutter (best)	$8 00	24	48
22—Best Subsoil Plow (2-horse)	$8 00	24	48
23—Various Books—*See terms below*			
24—Boy's Chest of Tools	$8 00	18	86
25—Youth's Chest of Tools	$13 00	28	60
26—Gentleman's Chest of Tools	$20 00	43	80

DESCRIPTION OF THE PREMIUMS.—SEE REMARKS ABOVE.

Premiums. 2, 3.—Wringing Machine.

We place this first, for it is nearly new, and one of the most useful articles for every family. We had one of the first made, and have used it over a year with the highest satisfaction. It completely does away with the hard straining work required to wring out garments by hand. It does not twist and break the fibers of the clothes, but simply presses them between two elastic India-rubber rollers, which are moved by a crank, and whether large or small pieces, they come out dryer than when wrung by hand. The saving to garments would soon pay the cost of the implement, to say nothing of the saving of woman's labor. The machine is set upon the side of any tub; the garments drop out into a basket. A child can quickly wring out a tub full of clothes—No. 2, costing $7.50, is just the thing for common family use. This we present to any one sending us **18** subscribers for the *Agriculturist*, at $1 each, (or **37** at the lowest club price of 80 cents each.)——No. 1, costing $10, is adapted to larger families and Hotels. We will present it for **23** subscribers at $1 each, (or **48** at 80 cts. each.)

Premium No. 4—Sewing Machine.

90 Subscribers at $1 each, (or **130** at 80 cents each,) will entitle the person sending them to *Wheeler & Wilson's* best **$45 Sewing Machine,** (including **Hemmer**), new from the factory, and of the very best make. There is no better family machine than this made, as we have proved by nearly *four* years' use in our own family, in connection with other machines. We want no better.—The prolongation of life, the saving of health and strength to our females, and the better physical vigor thus secured to the next generation, render the Sewing Machine one of the most desirable additions to the household.——Premiums 4 and 5 will be selected new at the manufactories, be well boxed, and forwarded without expense to the recipient, except for freight charges after leaving the city. Full instructions for setting up and using go with each machine.

Premium No. 5—Sewing Machine.

69 Subscribers at $1 each, (or **98** at 80 cents each,) will entitle the person procuring them to *Willcox & Gibbs'* **$35 Sewing Machines,** including a set of **Hemmers.** This is the best machine of its kind, (sewing with one thread,) and has several points superior to other machines. It is neat, well made, simple in its operation; and having tested one in our own family for more than a year, we think highly of it, and can recommend it to those who can not afford to buy the higher priced double-thread machines. (The regular price of this machine is $30, but we have included in our offer $5 extra for the set of *Hemmers*, because those used with this machine are very simple and effective, and should go with every machine sent out.)

Premium No. 6—Barometer.

19 Subscribers at $1 each, (or **44** at 80 cents each,) will entitle the person getting up the club to one of *Kendall's* **Aneroid Barometers,** (Price $7 50.) This is a good, portable instrument, and valuable to every person as a weather guide, as well as for scientific purposes. We have had one in use for nearly two years, and find it not only accurate, but an admirable weather prophet. Scarcely a rain storm or gale of wind has occurred, that has not been heralded by our barometer. Each instrument is packed in a neat leather case, 6 inches square, and 4 inches deep.

Premium No. 7—Hydropult.

30 Subscribers at $1 each, (or **48** at 80 cts. each,) will entitle the person making up the club to the **Hydropult,** (Price $12,) a very useful hand implement for carrying instantly to any desired point, to throw water from a pail, tub, cistern, or other receptacle, for extinguishing fires, watering plants, washing carriages, etc., etc. A stream can be thrown up to the third story windows. It is has jet pipes, and sprinkler; is made of brass, and is durable. It weighs 8 lbs., and can be packed in small compass to go by express or otherwise.

New-Orleans and Vicinity---Ship Island.

Premium No. 8—Melodeon.

125 Subscribers at $1 each, (or **237** at 80 cents each,) will entitle the person getting up the club to one of *Geo. A. Prince & Co.'s* **$75 Melodeons** (5 octaves). These Melodeons are of very superior tone and finish. We have ourselves used one for two years past, and it has given the highest satisfaction, and is pronounced by all who have heard it, as one of the very best. The different priced instruments are of equally good tone—the price varying with the size and style of finish. The size, prices, etc., of these instruments can be learned particularly, by sending a stamp to Geo. A. Prince & Co., Buffalo, N. Y., for an illustrated descriptive catalogue. The instruments given as Premiums, will be sent new directly from the factory at Buffalo, ready boxed, and without expense to the recipient, except for freight.

Premium No. 9—Melodeon.

104 Subscribers at $1 each, (or **182** at 80 cents each) will entitle the person getting up the club to one of *Geo. A. Prince & Co.'s* **$60 Melodeons** (4½ octaves.) See No. 8.

Premium No. 10—Melodeon.

90 Subscribers at $1 each, (or **130** at 80 cents each,) will entitle the person getting up the club to one of *Geo. A. Prince & Co.'s* **$45 Melodeons** (4 octaves.) See remarks above. **N. B.**—Higher priced Melodeons will be given for larger lists, in the same proportion.

Premium No. 11—New Cyclopedia.

96 Subscribers at $1 each, (or **140** at 80 cents each,) will entitle the person getting up the club to a set of *Appleton's* **New American Cyclopedia,** now in course of publication, consisting of *sixteen large volumes* of 770 pages each. This is a magnificent work, forming a whole library embracing every topic of human knowledge. Twelve volumes are now ready, and the remaining four will be furnished as fast as issued. The original design of this work was 15 volumes, but it is found that the immense mass of matter will require 16 large volumes. The work is sold at $3 per volume, or $48 for the set. To no better purpose could any one devote the Winter evenings than in raising a club of subscribers to secure this for himself and family.

Premium No. 12—Best Dictionary.

18 Subscribers at $1 each, (or **40** at 80 cts. each,) will entitle the person getting up the club to a copy of the *large Pictorial Unabridged Edition of* **Worcester's Dictionary,** (Price $7 50.) This now stands confessedly the most valuable Standard Dictionary published. It weighs nearly **10** lbs.; is **12** inches long, **10** inches wide, nearly **4** inches thick, and contains **1854 pages** of 3 columns each, giving the spelling and pronunciation, with full explanations, of every word in the English Language, and as a source of general information on all subjects, stands next to the Cyclopedia. The Dictionary can be called for at our Office, or be sent by Express or otherwise, to any part of the country.

Premiums Nos. 13 to 17—Back Volumes.

These premiums (13 to 17,) will enable any one to secure the previous excellent volumes of the *American Agriculturist*, as far back as Volume XVI. We have stereotype plates and can print any number desired of the English Volumes 16, 17, 18, 19, and 20, and of the German Volumes 18, 19, and 20. These will be sent in clean, new numbers, each volume by itself, with index complete, and be forwarded *post-paid*. The whole five can be taken together, or one or more copies of any particular volume be selected, as desired They will be presented as in the table above, viz: For **16** Subscribers at $1 each, (or **30** at 80 cents each,) we will present **five volumes.**——For **13** Subscribers at $1 each, or **26** at 80 cents each, **four volumes.**——For **10** Subscribers at $1 each, (or **20** at 80 cents each,) **three volumes.** ——For **15** Subscribers at 80 cents each, **two volumes.** ——For **10** Subscribers at 80 cents each, **one volume.** ——Let every one selecting these premiums be careful to name just *which* back volumes are desired.

Premium No. 18—Paints.

20 Subscribers at 80 cents each, will entitle the person getting up the club to an assortment of *Windsor & Newton's* **Water Color Paints**—consisting of 12 colors, put up in a neat mahogany case, with brushes, etc. These Paints are imported from London, and are by all considered the best in the world. They are adapted to the finest work, or they will make a neat and appropriate present to any of our younger readers. They will be sent post-paid any where within 3000 miles. (If to go to the British Provinces or to the Pacific Coast, the recipient will need to send 84 cents for extra postage above the 6 cents per ounce which we pay.)

Premium No. 19—Paints.

15 Subscribers at 80 cents each, will entitle the person getting up the club to an Assortment of *Osborne & Hodgkinson's* **Water Color Paints,** consisting of 24 colors or shades, put up in a mahogany case with brushes, cups, etc. These are of American manufacture, and though not so fine as the above, they will answer for ordinary practice by children or beginners, and for common sketching. They will also be sent by mail, post-paid. (If to go to the British Provinces, or to the Pacific Coast, $1,05 will need to be sent by the recipient to pay the extra postage above 6 cents per ounce.)

Premium No. 20—Corn Sheller.

21 Subscribers at $1 each, (or **40** at 80 cents each,) will entitle the person getting up the club to one of the best **$6½ Hand Corn Shellers.** This is a convenient, useful implement, very frequently called for. We give the best implement to be obtained for the price.

Premium No. 21—Hay Cutter.

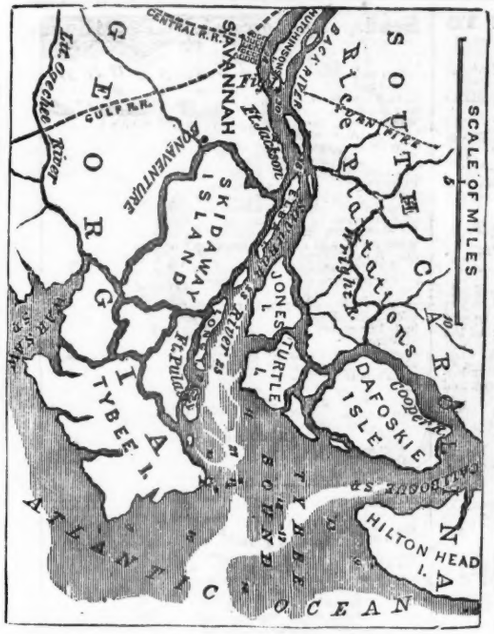
24 Subscribers at $1 each, (or **48** at 80 cents each,) will entitle the person getting up the club to one of the best **$8 Straw and Hay Cutters.** This is a useful implement, needed wherever horses and cows are kept.

Premium No. 22—Subsoil Plow.

24 Subscribers at $1 each, (or **48** at 80 cents each,) will entitle the person getting up the club to the best **$8 Subsoil Plow** (two-horse), a very desirable implement

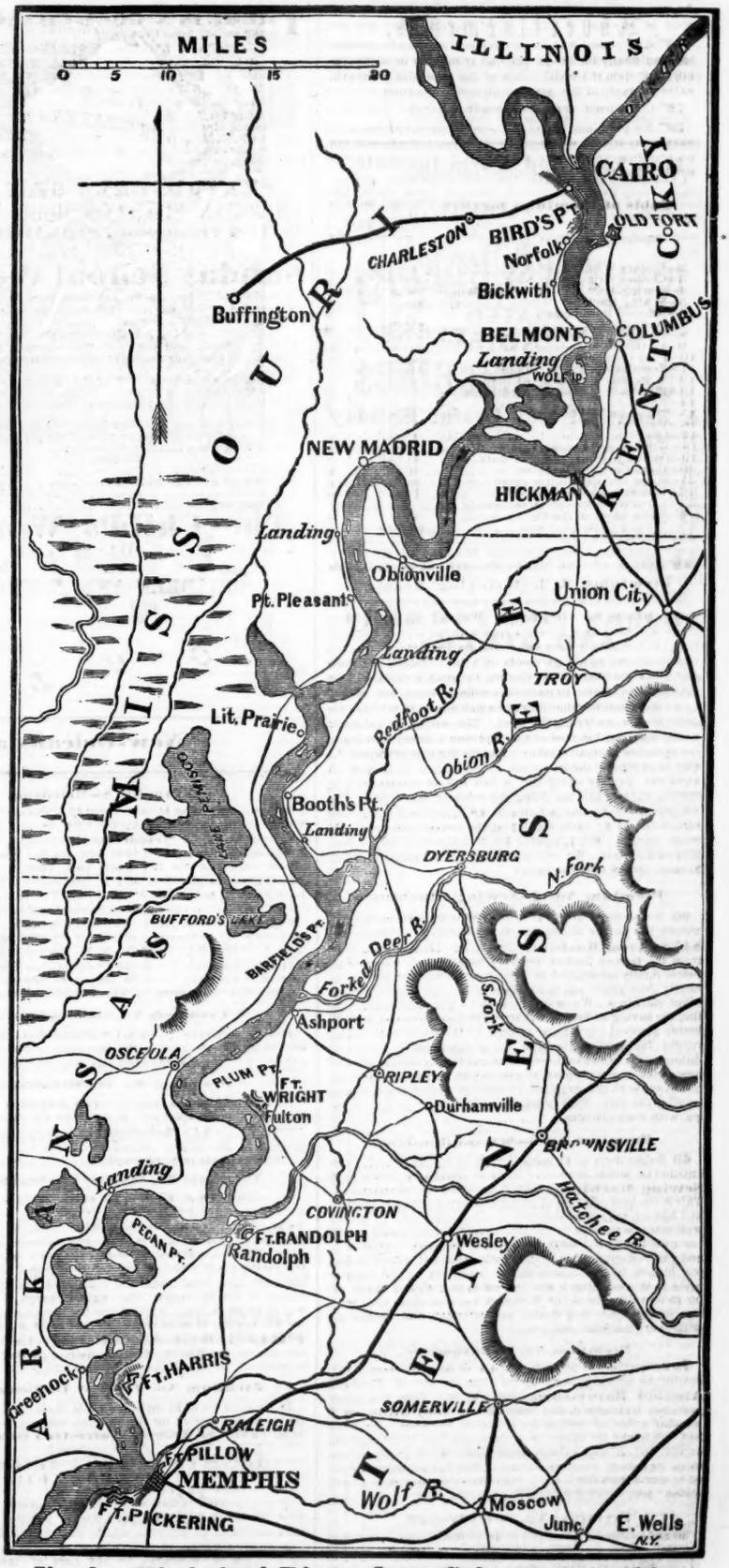
Premium No. 23—Good Books.

Here is an opportunity to get a good library at little expense. Any person getting up a club of **16** or more names may choose any desired Books from the list advertised on page 30, *to the amount of* 12½ *cents for each name sent at* 80 *cents*, (or 83½ cents for each name sent at $1); the books will be *delivered to the recipient free of all expense for postage.*



No. 2.--Savannah, Tybee Island.

No. 3.--Fernandina, Fla., and Vicinity.



No. 4.--Mississippi River from Cairo to Memphis.

THE MAPS.—In the November *Agriculturist*, we gave 3 large maps, embracing Missouri, Kentucky, part of Tennessee, and the Potomac River from Harper's Ferry to its mouth, with the adjacent territory. The extraordinary call for extra copies of that number, from subscribers who purchased them for their friends, leads us to conclude that the accompanying maps of points of present interest will be very acceptable.—**No. 1,** shows the location of SHIP ISLAND, which has just been occupied by the Union troops as a base of operations in the South West. New-Orleans and its surroundings, and the mouths of the Mississippi, etc., are also laid down. The small figures on this Map indicate the depth of water.—**No. 2,** shows another interesting locality, including a part of Hilton Head Island, which extends north to Port Royal and contains Fort Walker, the head quarters of Gen. Sherman. Tybee Island, Fort Pulaski, Savannah, etc., are also seen. **No. 3,** is a locality towards which general attention is directed, and we shall doubtless soon hear of military operations in that vicinity.—**No. 4,** shows a portion of the Mississippi River, which is just now *the* great center of interest, in view of the extensive military preparations, apparently for a descent upon Columbus, by the Union forces, gunboats, etc., now collecting at Cairo, St. Louis, and in various parts of Kentucky. These Maps, in connection with those given in November, will enable our readers to follow the contending armies in their more immediate operations. Other points of interest will doubtless soon be developed. ☞ We can not longer supply the November number free to new subscribers. Copies can be had at the regular rates (10 cents each).

Advertisements.

Advertisements to be sure of insertion must be received at latest by the 15th of the preceding month.

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WILL BE PUBLISHED BY
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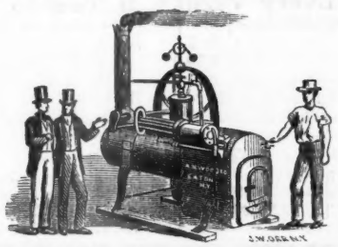

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EXCELSIOR

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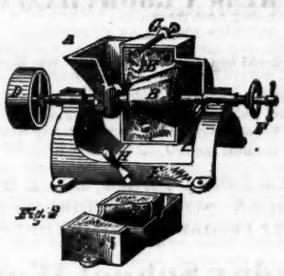

Fig. 2

AND

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These machines took TEN FIRST PREMIUMS at WESTERN STATE FAIRS last year, and are justly considered superior to all others.

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FOR DRIVING THRESHING MACHINES, FARM MILLS, HAY CUTTERS, COTTON GINS, CIRCULAR SAWS, MOULDING AND PLANING MACHINES, LATHES, ETC.

Has proved itself to be THE BEST ever invented. The friction is reduced by IRON BALLS, so arranged in all the bearings, that the whole weight of the castings runs upon them. THREE POUNDS DRAUGHT at the end of a ten feet lever, will keep the power in motion! thus permitting the *entire strength* of the horses to be used on the machine to be driven. *One horse* will do as much work on this power as *two* on the Endless Chain Power. IT IS PORTABLE and may be used IN THE FIELD as well as in the house. More than TWENTY FIVE PER CENT of horse flesh is saved, over ANY OTHER POWER IN USE. It is simple in construction, and not liable to get out of order. The $125 Power will drive any Threshing Machine.

Price of Power for 1 to 4 horses $125
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A Slight Cold, Cough, *Hoarseness, or Sore Throat, which might be checked with a simple remedy, if neglected, often terminates seriously. Few are aware of the importance of stopping a* ***Cough*** *or* ***Slight Cold*** *in its first stage; that which in the beginning would yield to a mild remedy, if not attended to, soon attacks the lungs.*

Brown's Bronchial Troches *were first introduced eleven years ago. It has been proved that they are the best article before the public for* ***Coughs, Colds, Bronchitis, Asthma, Catarrh,*** *the Hacking Cough in* ***Consumption,*** *and numerous affections of the* ***Throat,*** *giving immediate relief.*

Public Speakers and Singers, *will find them effectual for clearing and strengthening the voice.*

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We also manufacture from RAW, (OR UNBURNED), BONES, the fine, medium, and coarse ground **Bone Manure**, for lasting as well as immediate effect upon all kinds of farm crops. The coarse ground is particularly valuable for *Fruit Trees* and *Grape Vines*, which require a constant and lasting source of nourishment.

For sale in large and small quantities by

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LODI MANUFACTURING COMPANY'S POUDRETTE,

FOR SALE BY

JAMES T. FOSTER,

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The large facilities which they enjoy by exclusive contract for all the night soil of the City of New-York, and large capital invested in their extensive works, enable them to manufacture an article which is superior to any other fertilizer in market, taking *cost* and *yield* into consideration. It will be sold at the usual price of $1 50 per barrel for seven barrels or over, delivered free in New-York City.

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Other brands of what purports to be Poudrette are in market, put up in barrels to resemble this. Beware of frauds—buy that only which has the brand of the Lodi Manufacturing Co. Any other article is comparatively worthless.

We call the attention to the following experiences of practical farmers, in different sections of the country:

NORTH PEMBROKE, Mass., Oct. 7, 1861.

James R. Dey, Esq., President of the Lodi Manufacturing Co.:

Dear Sir—The early autumnal frosts for several years past have seriously injured our corn crops, and rendered it necessary for farmers in this section to seek some fertilizer to give their crops an early start, in order to bring them to maturity in season to avoid that calamity. Having experimented with Guano, Superphospate of Lime, etc., with indifferent success, in the Spring of 1860 I purchased four barrels of the Lodi Manufacturing Co.'s Poudrette, which I applied principally to my corn crop, with the most satisfactory results. This was the first Poudrette ever introduced into this vicinity. Last Spring I procured from your branch office in Boston about thirty barrels, the most of which I sold to my neighbors, who had witnessed the effect of my last year's trial, which, so far as has been heard from, has given universal satisfaction. To further test the efficacy of your Poudrette, this season I ploughed about two acres of light, sandy soil, which had laid in grass about six years, (the last crop of grass being very light.) This I planted with corn and potatoes, applying about four and a half barrels of Poudrette, with no other manure, except a handful of ashes to each hill at the first hoeing, and from present appearances we shall have a better crop than on a field of like soil where we applied twenty-five loads of manure to the acre. Its effects on garden vegetables are equally apparent. I am, very respectfully, yours,

HORACE COLLAMORE.

MERRILL, Me., Oct. 11, 1861.

Lodi Manufacturing Co.:

Sirs—I bought of your agents, Cross & Newell, two barrels of your Poudrette, and in using the first, I got sick of it and sold the other barrel. But the one that I used I tried the principal part on potatoes. I used about half a pint to the hill, and the yield was equal to those planted on manure at the rate of twenty loads to the acre. My neighbor, who bought the other barrel, says if he had bought five barrels more, he would have saved the price of twenty barrels.

Yours, &c., V. B. PAUL.

WALDO, Me., Oct. 12, 1861.

To the Lodi Manufacturing Co.:

Gentlemen—Last Spring I bought of Cross and Newell one barrel of your Poudrette as an experiment, but with very little faith in its utility. I put it on six rows of corn in different parts of the field, after manuring with barn-yard manure, in the usual way—at the second time hoeing. Where I put the Poudrette the corn was twice as large as the rest of the field, and this now is one-third heavier, and has ripened about eight days earlier. I think it the very thing we want for raising corn in this country, and shall use it more extensively another year.

Yours, &c.,
WELLINGTON SHOREY.

SMYRNA, Del., Oct. 1, 1861.

Gentlemen—I had heard of the Poudrette manufactured by the Lodi Manufacturing Co., and thought I would try a small quantity on a lot of land intended for corn, and as I could not get it nearer than Philadelphia, I went and bought of the agent twenty barrels, and applied two barrels to the acre, dropping the corn and a handful of Poudrette in each hill. I left out a part of two rows, and put no Poudrette, to ascertain if there was any value in it, and noticed those two rows during the season; and where the Poudrette was used, the corn was decidedly the best, and I have no hesitation in saying it is a good manure for corn. I am certain I made from one-third to one-half more by using it.

Yours, respectfully, JOHN G. BLACK.

CHESTER, Pa., Sept. 13, 1861.

To the Lodi Manufacturing Co.:

Gentlemen—I purchased this season of Messrs. Baker & Co., eleven barrels of Poudrette and one bag of Phuine, which I put on my corn. I marked the place where I put the Phuine, which, when started, seemed ahead, but now the corn where the Poudrette was on is much the best. Last year I used Allen & Needle's new Fertilizer, which did no good at all, as the corn done better without the manure. I think the Poudrette made by your Company the cheapest manure in use.

Yours, &c.,
A. R. PERKINS.

The Company's pamphlet, containing directions for its use, with other valuable information and the experience of over one hundred farmers, will be sent free to any one applying for the same. Address,

JAMES T. FOSTER,
Care of Lodi Manufacturing Company,
66 Cortlandt-st., N. Y

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Publisher's Notices.

Don't Send any more Money by Express.

Owing to a combination among the express companies, and the heavy charges made for bringing money (averaging about 10 per cent on what we have lately received in this way) we must request our friends to hereafter choose some other mode of remitting. The mails are safe if a letter be securely closed and plainly directed. The Post Master General's last report showed that nearly ninety nine out of a hundred of the money letters received at the Dead Letter Office, went astray for the want of carefulness on the part of the writers. In the past year we have received as many as a hundred letters containing money, *which had never been sealed at all*, and yet they came through safely. Many other letters have been defective otherwise, owing to the oversight of the writers.

The *best* way to remit money (if $10 and over) is in the form of drafts on a New-York Bank, payable to the order of the publisher. They can now be obtained cheaply at most larger towns, or wherever there is a Bank. Such remittances are absolutely safe, if drawn by a responsible Bank, or Banker. The new Demand Treasury Notes of $5, and $10 or upwards are convenient for remitting. The general currency of the country, however, is now on so sound a basis that bank bills in most of the States are within one or two per cent of par here. Missouri Banks are just now an exception, being 30 per cent discount.

Good Things Easily Obtained.

We again remind our readers that it will be an easy matter for many persons to each obtain one or more good articles offered in our premium list (page 27); they are all desirable. It would benefit us, and be a convenience to other subscribers, if some one at every Post Office would gather up the names for a large premium club. The more subscribers there are in any place the greater will be the improvements made in that locality. Every man set to *thinking* by the hints and suggestions given in this or other journals, will be also set to improving, and his experience and example will be useful to all others within the circle of his influence.——Will the reader please look over the premium list, and commence a club at once, if some one else is not already successfully engaged in such an enterprize? More than two thousand persons received one or more of our premium articles last year. Over 800 secured the large dictionaries alone, while great numbers obtained the splendid Cyclopædia, Sewing Machines, Melodeons, etc., and we have yet to hear of one who does not feel paid for the effort required.

Flourishing.

The numerous friends of the *Agriculturist* will doubtless be glad to learn that, despite the war and hard times, the paper is receiving quite as many subscribers as in any former year. We have tried to *deserve* this success, and are thankful to the many who have kindly appreciated our efforts. We shall try to merit still greater favors.

"As Before."

"Enclosed find subscription for next year. Send as before."—This is the substance of letters frequently received, which would be acceptable, always, if we could only ascertain to what Post Office the "as before" refers. It is utterly impossible for our entry clerks to remember every subscriber's address, and next to impossible to find a name on the previous year's book, if the Post Office be not given. The Post Offices are indexed by States, but not the names. A hint is sufficient.

It will Pay.

Our arrangements are such for the present year, that we *know* the *Agriculturist* will be worth vastly more than its subscription price, to every one who reads it. This number, as *full* as it is, is only a beginning. The reader, of course, knows all about this, but there are many who do not. A word to them from a mutual friend (yourself) might be for their benefit——and ours, too.

Can at any time be increased, by remitting for each addition, the price paid by the original members—provided the subscriptions all date back to the same starting point. The back numbers will of course be sent to added names.

Almanac for 1862.

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